United States Army

Aviation Digest

Professional Bulletin 1-92-6

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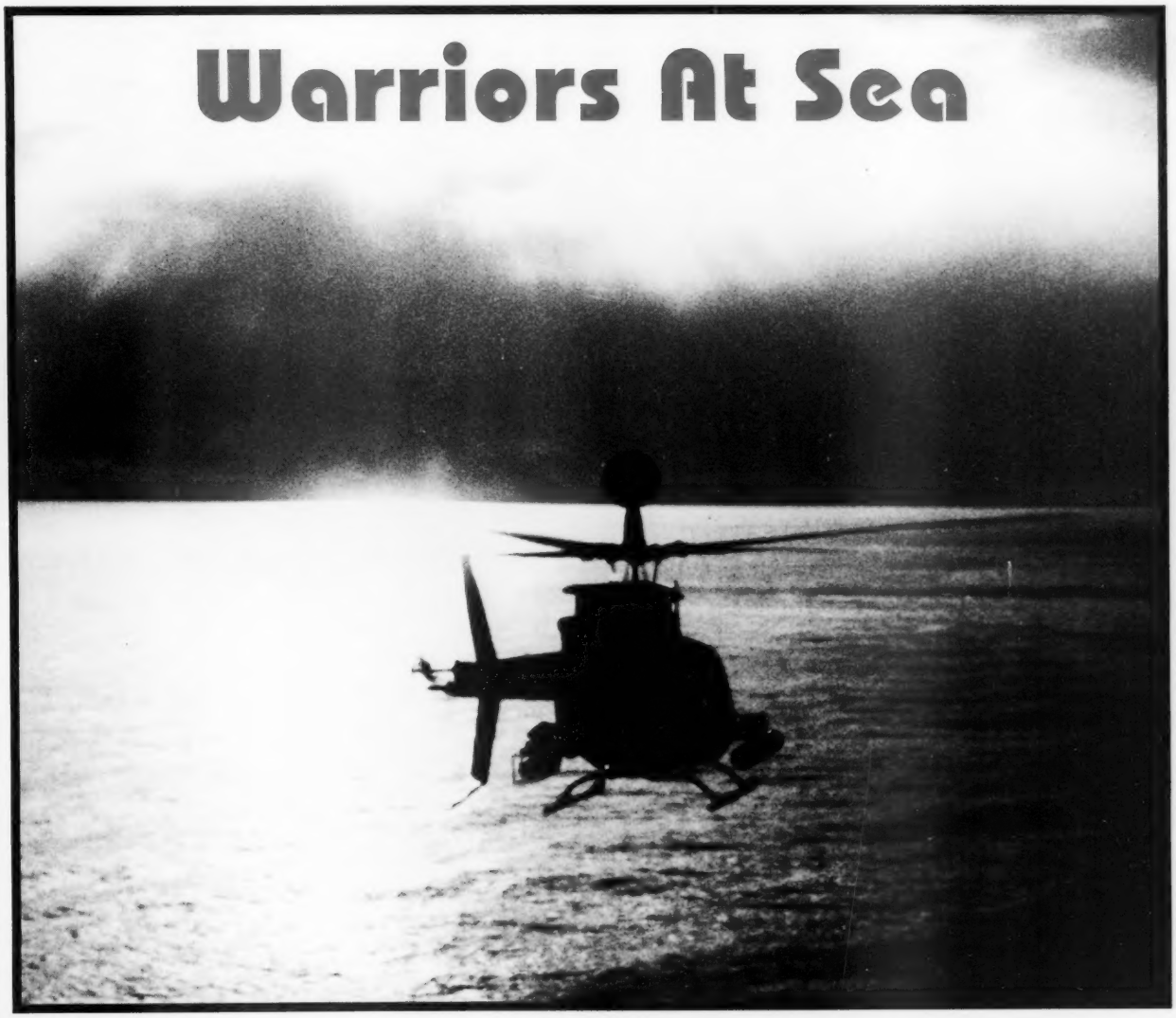
Warriors At Sea



November/December 1992

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Back Cover: **U.S. Army Aviators Support Dismounted Battle Lab (continued)**

Cover: **To meet the full spectrum of future contingency missions around the globe, U.S. forces must maintain their fighting edge as they did in Operations Prime Chance and Provide Comfort, the lead subjects of this issue. Army Aviation played a crucial role in these operations, and will continue to contribute its assets as it did with the OH-58 Kiowa in "Warriors At Sea," this issue's lead article, starting on page 5.**

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The ***U.S. Army Aviation Digest*** is an official Department of the Army professional bulletin (USPS 415-350) published bimonthly under the supervision of the commander, U.S. Army Aviation Center. This publication presents professional information, but the views expressed herein are those of the author not the Department of Defense or its elements. The content does not necessarily reflect the official U.S. Army position and does not change or supersede any information unless otherwise specified. Photos are U.S. Army unless otherwise specified. Use of the masculine pronoun is intended to include both genders unless otherwise stated. Material may be reprinted provided credit is given to the ***Aviation Digest*** and to the author unless otherwise indicated. Publication uses recyclable paper.

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Second class postage paid at Daleville, AL, and additional mailing offices.

Active Army, Army National Guard, and U.S. Army Reserve units receive distribution as outlined in DA Pamphlet 25-33. To complete DA Form 12-99-R, enter form number 12-05-E, block number 0014, and quantity. Also use DA Form 12-99-R for any change in distribution requirements. Army units submit the form to their publications control officer.

Personal copies of the ***Digest*** can be ordered from New Orders, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.

POSTMASTER: Send address changes to U.S. Government Printing Office, Superintendent of Documents, ATTN: Chief, Mail List Branch, Mail Stop: SSOM, Washington, DC 20402-9373.

Major General Dave Robinson

Army Aviation's Role in the Future

Defined Through Battle Labs

The varied articles in this issue of the *Aviation Digest* reflect many of the missions Army aviators are performing daily. Throughout 1992, I visited aviation units around the world—in Korea, Europe, South and Central America, and across the continental United States (CONUS).

You are having to make tough decisions in a time of dynamic change and reduced resources. Despite these challenges, you are accomplishing your missions with enormous professionalism. You are showing how Army Aviation can contribute to the combined arms team with that intangible quality—the "Soul of a Warrior."

As the Cold War becomes a remnant of history, we must orient our intellectual abilities on the post Cold War period and its implications for the future force. We have a choice—reflect on past victories or set a visionary course into the future and harness new doctrine, techniques, procedures, and technology to maintain our fighting edge.

In the U.S. Army Training and Doctrine Command (TRADOC), we have begun to examine future concepts related to emerging technologies. We are examining these concepts in the context of the continuum of military operations. This extensive program is known as "Battle Labs."

The battle lab process provides a mechanism to experiment, tinker with new ideas, and integrate promising concepts across the force. Output from this process will be doctrine, training, leadership, force structure, and materiel development initiatives or some combination of these.

Battle labs assess battlefield operations in terms of five dynamics: early entry lethality and survivability, depth and simultaneous attack, mounted/dismounted battlespace, battle command, and combat service support (CSS). While the proponents for these cells are different TRADOC organizations, the cells focus on battlefield functions that require support from several proponents.

Early Entry Lethality and Survivability

Fort Monroe, VA, is the home for this lab. In the face of a new strategic environment, our nation has an increasing need to deploy contingency forces rapidly anywhere in the world. Such operations could be opposed or unopposed.

To serve as a credible deterrent, we must have rapidly deployable and lethal forces. Our national military strategy depends on having flexible deterrent force package options capable of being tailored for contingency operations. Operations range from nation building and disaster relief, to fighting a major regional conflict. These forces must be capable of operations the moment they arrive. The reduction in the number of forward-deployed troops increases the likelihood that CONUS-based forces will be called on in joint, combined, or coalition operations.

The early entry lab focuses on exploring technologies that improve lethality, survivability, and deployability of contingency forces. Once deployed, the force must possess the requisite intelligence, communications, fire and maneuver elements, and sustainment for protection and follow-on combat operations as needed.

Contingency planning is based on an initial force of about 2,000 soldiers, with a follow-on force of up to 10,000 more. Emerging technologies offer great advantage in giving such a force greatly increased capability. To enhance sustainment, aviation is developing a highly deployable, flexible, logistics organization tailored to meet the operational requirements of the early entry force. Also aviation is

working on joint interoperability during reconnaissance and security operations. During recent contingency operations, Army Aviation played a crucial role in the overall success of these operations. The OH-58D Kiowa Warrior is an excellent example of a lethal early deployer. The ability to place two OH-58Ds on each C-130 Hercules provides the warfighting commanders-in-chief with a real-time intelligence and armed aircraft capability. Future developments, such as the RAH-66 Comanche, will keep aviation at the center of our contingency force planning.

Depth and Simultaneous Attack

The depth and simultaneous attack lab is located at Fort Sill, OK. It is focused on harnessing the capabilities that allow us to attack an enemy, throughout the depth of the battlefield, in all three dimensions, while still providing maximum protection of our forces. This implies simultaneous close and deep attack operations. These operations are synchronized and focused by advanced intelligence-producing systems. These systems provide near real-time targeting information, digital communications, and rapid access to precision fire capability. The fires may be from multiple launch rocket systems (MLRSs), Army tactical missile systems (ATACMSs), AH-64 Apache HELLFIRE missile systems, or joint systems.

The purpose of fighting both the close and deep battle is to disorganize, disrupt, and destroy the enemy across the width and breadth of the battlefield. High-technology weapon systems have the potential to upset battle tempo and alter the battle calculus. Aviation's ability to break friction with the ground and fight throughout the depth of the battlefield make aviation a natural contributor in this lab.

Army Aviation is working many initiatives in this area: deep operation planning and execution cells; improved airspace management; precision munitions, with increased standoff ranges and improved lethality; interoperability in joint/combined operations communications; suppression of enemy air defense (SEAD); near real-time analysis of battle damage assessment (BDA); and improved survivability through the use of onboard aircraft survivability equipment, escort jammers, and near real-time target identification of short dwell-time targets (relocatable targets).

Recently, the lab demonstrated digital communications linkage among an ATACMS firing battery, a fire direction center, a UH-60 Black Hawk ASC-15B console-equipped command and control ($C^{2)}$ aircraft, and two airborne target handoff system (ATHS)-equipped Apaches with HELLFIRE missiles. The target was a low-dwell time, high-value target.

The Apaches passed precise target information through the UH-60 to the fire direction center that issued firing data to the ATACMS crew. The result was near simultaneous, direct hits by the ATACMS and the HELLFIRE crews. This demonstration showed the intent of the lab notion in getting several members of the combined arms team to work toward a common object—harnessing the most powerful technology available.

Battle Command

This laboratory was established at Fort Leavenworth, KS. Future joint, combined, and coalition operations, coupled with the use of long-range precision munitions, manned and unmanned aerial platforms, will add significantly to the problems of synchronizing the efforts of the combined arms team. To be successful, we must establish and maintain a battle tempo that gives us the greatest relative advantage over our adversaries. This lab is oriented on developing robust C^2 systems with an initial focus on developing capabilities to best support our "commanders on the move," ensure joint interoperability, optimize our space-based systems, and harness broadcast technology. In the past, we were content to know our enemy's location and strength. Today, it is no longer satisfactory to know merely the location of enemy troop formations, but we must try to determine his intent. The union of space-based and ground forces is a major key in uncovering our enemy's intent. By knowing his intent, we will be able to interdict his plans before he has time to execute them. Aviation has long been the "eyes and ears" of the commander. Our current airborne C^2 system, the ASC-15B, continues to provide a mobile command post needed by the commander to maintain the battle tempo.

Another thrust of this lab is automation of our battlefield CSS. Through the use of satellite communications, our forces are now able to communicate with CONUS-based logistics organizations anywhere in the world. The ability to process logistical requirements in CONUS from the theater of operation in near real time will improve greatly the logistics support for our deployed units.

Our industrial base is working diligently to improve the situational awareness of our aircrews through im-

provements in hardware. In the past, our aircrews barely received essential information required to accomplish their mission. Today, our aircrews have the potential to be inundated with data and pushed into information overload. C^2 on the modern battlefield often requires our aviation commanders to control the battle from remote locations. The use of mission planning stations, decision aids, airborne C^2 systems, and other technological advancements, designed to improve cockpit management, will help to reduce the workload of our aircrews while significantly increasing their situational awareness. Aviation is also ensuring our airborne C^2 systems are compatible with the ground systems, and use both digital and voice communications over extended ranges.

Mounted and Dismounted Battlespace

The mounted lab is at Fort Knox, KY, while the dismounted lab is at Fort Benning, GA. The primary focus of the mounted battlespace lab is to provide horizontal digitalization of the battlefield at brigade level and below. The lab, in concert with the battle command lab, will ensure interoperability of communication systems within the Army. In the past, interoperability between proponent branch-developed communication systems was not ensured. As a result several disconnects in technology existed among aviation and the other branches of the Army. This lab is also working on enhancing the lethal reach of antiarmor systems and development of an electronic protection system for armored vehicles.

The dismounted battlespace lab will initially focus on integrating night fighting systems across the combined arms team. By extending the range of our weapon systems through the use of improved acquisition and detection systems, we can carry the fight to our adversaries well beyond the range of their weapons, both day and night. The goal is to disperse our forces but not reduce our effectiveness. Expanding our capabilities to kill threat targets under all environmental conditions will allow our aircrews increased survivability while further breaking the enemy's will to fight.

In aviation the development of the Longbow Apache and the Comanche will provide us a never-before-seen capability to fight under any battlefield situation. With advances in target acquisition and identification, we will also reduce the possibility of fratricide. Aviation continues to challenge the creative talents of the industrial base. The capabilities of sensor fusion, focal point array, image intensifier, and second generation forward-looking infrared (FLIR) will assist aviation in performing its mission in all types of meteorological conditions.

Battlespace is a function of the commander's ability to synchronize fully his warfighting assets to accomplish the mission in the most effective manner possible. Our nation has come to expect "Decisive Victory." This means a quick win with a minimum expenditure of our national resources. By extending and controlling the fight across all three dimensions, we will minimize the exposure of our aircrews.

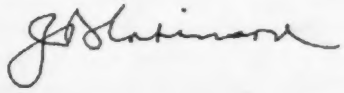
Combat Service Support

Our Army's transition to a CONUS-based contingency force will have a marked impact on how we view CSS. The battle lab for CSS is located at Fort Lee, VA. Its charter is to improve logistics force design, system and soldier sustainment, split-based operations, and total asset visibility.

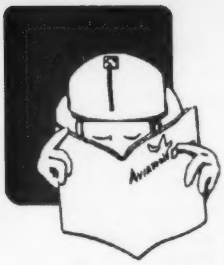
Our Desert Shield/Storm experiences demonstrated that our Aviation force structure needs improvement and robustness if we are to sustain combat operations for a prolonged period of time. We are looking also at improved mobility of class III and V on the battlefield; distribution and visibility of repair parts; and the use of "paperless" manuals that rely on enhanced maintenance technology and automated troubleshooting. As we continue to reshape the force structure, there must be a coordinated effort within Department of Defense to ensure we provide adequate logistics support to maintain our contingency forces. As we downsize our forces, we must look at consolidating efforts when possible. We are responsible for reducing costs by eliminating redundancy in our efforts while we anticipate and prepare for future requirements. As warfighters, we are aware that, without adequate logistic support, our ability to sustain combat operations does not existent.

Our efforts in the battle labs will result in rewriting doctrine, when needed; harnessing emerging technology to offset the further reductions in military end strength; and horizontally integrating doctrine and materiel developments across the force. President-elect Clinton has publicly stated he believes in maintaining our status as the unilateral military superpower through the use of high technology. So, while there continues to be speculation as to what our military forces will look like in the future, one fact remains: our nation will always have a need for a strong military force, capable of projecting power around the world on a moment's notice.

Through the use of the battle labs, the senior leadership of the Army continues to work on improving our capabilities so that the Army remains the primary warfighting force of our nation. We are continuing to break new ground; the Army that will emerge as a result of the battle labs initiative will be a strategically relevant force with aviation as the centerpiece. These are exciting times to be in the military. We are shaping the military force of the next century today. For the future is ours by design, you can see it in the eyes of the soldiers. The warrior ethic—that is what makes Army Aviation above the best.



VIEWS FROM READERS



Editor:

Military occupational specialty (MOS) 68L and MOS 68Q, HEADS-UP! The Fiscal Year (FY) 93 self-development test (SDT) windows open 1 July and 1 August 1993, respectively. These FY 93 SDTs were developed using a new Soldier's Manual/Trainer's Guide (SM/TG). These new manuals were printed in December 1992 and should be available for requisition anytime after 15 January 1993. Make sure your unit training noncommissioned officers order these new manuals as soon as possible after the above-mentioned date.

The numbers to order are Soldier Training Publication (STP) 1-68L13 and STP 1-68Q13 SM/TG. Also it is very important that the soldiers ensure all applicable references (technical manuals (TMs), etc.) listed in the SM/TG are available, either at the unit or the local learning center.

Points of contact are SFC Bowley/SFC Schuller, DSN 780-6412/5459; ATZH-SEA, Fort Gordon, GA 30905.

Editor:

The Senior Officer Logistics Management Course (SOLMC) is a 1-week, multifunctional logistics course. It is specifically designed to update battalion and brigade commanders, primary staff officers, and DA civilians working in the logistics field. The course encompasses maintenance, supply, and transportation as well as hands-on experience with vehicles; weapons; ammunition; and equipment: medical; communications; nuclear, chemical, biological; missile; and quartermaster.

The course is open to officers of all branches in the rank of major or higher from Active Component, Reserve Component, U.S. Marine Corps; and allied nations. DA civilians in the grade of GS-9 or higher are also eligible to enroll. The 1-week course is conducted 12 times each fiscal year at the Armor School, Fort Knox, KY.

Class quotas can be obtained through normal U.S. Army Training and Doctrine Command channels. You must enroll through your G-3 or civilian training office. For more information, contact the SOLMC staff, DSN 464-3411/8152 or commercial 502-624-3411.

SOLMC CLASS SCHEDULE

FY 93 **SCH 171** **CRS 8A -F23**

Class	Report Date	Start Date	End Date
93-03	31 Jan 93	01 Feb 93	05 Feb 93
93-04	21 Mar 93	22 Mar 93	26 Mar 93
93-05	18 Apr 93	19 Apr 93	23 Apr 93
93-06	02 May 93	03 May 93	07 May 93
93-08	23 May 93	24 May 93	28 May 93
93-09	20 Jun 93	21 Jun 93	25 Jun 93
93-503	25 Jul 93	26 Jul 93	30 Jul 93
93-10	19 Sep 93	20 Sep 93	24 Sep 93

Editor:

The Smoke/Obscurants Symposium XVII will be held 13 to 15 April 1993 at the Kossiakoff Conference and Education Center, The John Hopkins University, Laurel, MD. The theme is "Smoke: Early Entry Survivability."

Topics to be presented are camouflage, concealment, countermeasures, data analysis, data assessment and evaluation, deception, electromagnetic systems performance, health or environmental effects, modeling, natural obscurants, nonmilitary applications, operational uses, smoke systems and materiels; and validation, verification, and accreditation.

The symposium is sponsored by the U.S. Army Edgewood Research, Development, and Engineering Center, Aberdeen Proving Ground, MD. Members of the Department of Defense, industry, academia, and allied nations are invited to submit papers up to, and including, SECRET on the aforementioned topics. The abstract deadline is 15 January 1993.

For information contact Lisa H. McCormick, Symposium Coordinator, commercial 804-865-7604, telefax 804-865-8721; or Van R. Jones, Technical Coordinator, commercial telephone 410-671-3668/4426, DSN 584-3668/4426, telefax 410-671-3617. ❐

Task Force 118 protected U.S. Navy ships in the Persian Gulf from 1988 to 1991 with the Armed OH-58D and officially became the 4-17th in early 1991.

For more than 3 years, U.S. Army scouts flew from, and protected, U.S. Navy ships.

Warriors At Sea

Frank Colucci
Editor
Defense Helicopter
Shephard Press
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The *Aviation Digest* thanks the author for permission to reprint this article. Appearing first in the *Defense Helicopter (DH)* magazine (Dec 91 - Feb 92), the article was edited to conform to *Aviation Digest* style.

Scenario

On a night coastal reconnaissance mission in the Persian Gulf last January [1991], two U.S. Army OH-58D Kiowas identified four small Iraqi boats carrying 12.7 or 23mm guns. U.S. Navy units had engaged more of the Boston Whaler-type boats earlier, and with the permission of commanders at sea, the armed scouts launched two HELLFIRE missiles and got one hit, then followed up with gun and rocket fire. Ordnance expended and fuel low, the Army helicopters left three gunboats dead in the water and flew home to the ***USS Nicholas.***

Introduction

Desert Storm was just the cap to years of sea duty in the Persian Gulf by Army pilots of today's 4th Squadron, 17th Aviation Regiment, XVIII Airborne (Abn) Corps, Fort Bragg, NC.

Task Force (TF)118 officially became the 4-17th on 15 January 1991.

According to the 4-17th commander, Lieutenant Colonel (LTC) Bruce Simpson, "*Over 4 years, we've flown over 6,500 hours, or something like that, in doing our surface surveillance, searches, and interdiction. Our presence was important, that we were out there patrolling . . . . The fact that we were there, that we flew just about every night—the Bad Guys knew we were there too—the deterrence factor, I think, was important.*"

Operation Prime Chance put the OH-58Ds of TF118 aboard Navy ships in the Persian Gulf, back in 1988, to counter Iranian gunboats and minelayers. The armed scouts finally left the unsettled Gulf in October 1991, but the U.S. Army's first Corps-level, armed, reconnaissance squadron retains its maritime capability for future contingencies.

The unit still gives U.S. Forces a sea-going air cavalry (Sea Cav) unit for maritime surveillance and interdiction. With the first "productionized" Kiowa Warriors arriving this autumn [1991], the full strength 4-17th will give the XVIII Abn Corps a rapidly deployable, armed, reconnaissance squadron for contingency missions around the world.

"*We will maintain our capability to do what we did during Prime Chance as we expand our role and our training to fulfill our mission as a Corps cavalry squadron,*" explained LTC Simpson.

Background

Operation Earnest Will sent U.S. Army helicopters to the Persian Gulf in August 1987 to protect oil tankers and their escorts. The AH-6 (Little Birds) of the 160th Special Operations Aviation Group (SOAG), TF160, gave Navy ships armed surveillance capability at night. (See *DH*, Aug 91.)

An Army's OH-58D, equipped for maritime duty, fires over water.

Despite the success of the Little Birds, the 160th SOAG could not be tied to an open-ended commitment in the Gulf. The Joint Chiefs of Staff directed the U.S. Army to arm 15 OH-58Ds for the maritime role. Bell Helicopter was authorized to proceed with the modifications in September 1987.

Bell delivered the first armed OH-58Ds for Prime Chance in November 1987, less than 100 days from go-ahead. (See *DH World*, Aug 88.) All 15 aircraft were delivered by April 1988. The helicopters have been used ever since without modification. Prime Chance added 15 black boxes, 4 antennae, and 11 cockpit control/display heads to the OH-58D as rebuilt in the Army Helicopter Improvement Program.

The armed scouts were rushed through a weapons test program, including Rockwell HELLFIRE and General Dynamics Stinger missiles, BEI Hydra-70 rockets, and an Aerocrafter 0.5-caliber machinegun package. The scouts also were given APR-39 and APR-44 pulsed and continuous wave radar warning receivers and the ALQ-144 infrared jammer to enhance their survivability.

The hurried test program proved the armed OH-58D with transmission uprated to 510 shaft horsepower could operate at 5,500 pounds (lb) gross weight, 22-percent heavier than the unarmed scout, without seriously compromising flying qualities or component lives.

The 0.5-caliber gun package weighs 321 lb, including 500 rounds of ammunition. Rushed into service like the other Prime Chance modifications, the OH-

58D generated enough buffeting in one high-speed test to bend the left horizontal stabilator down to the vertical. The helicopter flew, and the original gun package remains in service. The package will be used until a shorter, cleaner magazine arrives on the production Kiowa Warrior.

The dangerous sea mission

From Fort Bragg, A and B Troops of the 4-17th deployed 10-man, 2-aircraft detachments on FFG-class (guided missile) frigates and DDG-class (guided missile) destroyers destined for the Gulf. The so-called "boat people" were crammed aboard with U.S. Navy helicopter detachments and maintained their sophisticated weapons system with minimal support. They flew heavily loaded, single-engine helicopters to and from blacked-out decks. They generally stayed at altitudes less than 50 feet over the water at night.

The mast-mounted sight (MMS) on the OH-58D is a powerful surveillance and targeting tool, but flying the battlefield scout over the dangerous Gulf required night vision goggles (NVG) and skilled crews.

"There's just a wide range of conditions over water . . . ," explained the 4-17th B Troop commander, Captain (CPT) Al Davis.

"If the water's real smooth, it becomes like a mirror. You can see stars reflecting off the water just as you'd see them up in the sky.

"If there's much of a haze, or dust, or smoke in the air, you lose your horizon. It's like a ping-pong ball from the inside. It's dark green on the bottom and light green on the top and there's no change. There's no visual horizon at all. And there's so many conditions in between, it's hard to imagine how hard it can be to fly over water sometimes. We have no autopilot. You've got to fly the thing all the time."

An OH-58D sea detachment has a commissioned or warrant officer in charge (OIC) who scouts and shoots for the captain of the ship. Small gunboats with low free-board provide little radar return. The Navy still has no armed helicopters that can see and engage surface "contacts" at night. The OH-58Ds always launch in pairs, unless their ship comes under attack, and they work with Navy light airborne multipurpose system (LAMPS) helicopters to detect and investigate elusive threats.

Training

TF118 was carved from the 18th Aviation Brigade and initially used high-time Army instructor pilots trained in shipboard operations by the Navy. OH-58Ds spotting for artillery normally fly with enlisted observers, but night operations over water in a potentially high-threat environment called for two-pilot crews.

Maintainers were trained quickly on new weapons and systems. Prime Chance OH-58Ds relieved the Little Birds in July 1988 and operated from ships and mobile sea bases. The large, relatively stable barges were leased from Kuwait and had room for 60 to 80 people below deck.

The nocturnal harassment ended as TF118 took up the guard in the Gulf, but there were endless contacts to be investigated and occasional incidents still not discussed. The 160th SOAG kept UH-60 Black Hawks on station after the withdrawal of the Little Birds to provide search-and-rescue (SAR) support for TF118. To reduce the American presence in the Gulf, Special Operations Forces Black Hawks were withdrawn on 15 September 1989.

On 27 September 1989, an OH-58D flew into the water. The crew escaped but spent 45 minutes floating in life vests awaiting rescue by a Navy helicopter crew without NVG. The experience made SAR an important part of Sea Cav training. Ultimately, because of this accident, the 4-17th received its own Black Hawk troop in the summer of 1991.

The 4-17th currently has two flight troops, each authorized eight helicopters in four detachments. A headquarters troop, a maintenance troop, and now a Black Hawk troop with 12 UH-60s back A and B Troops. It takes about 6 intense months to transition a pilot from the "slick" OH-58D to the Sea Cav mission.

A Troop of the 4-17th was sent ashore during Operation Desert Storm to support Special Operations Forces in the liberation of Kuwait.

Sea Cav pilots practice small deck operations by day and night on LAMPS ships.

Until recently, pilots selected for the 4-17th were high-time aeroscout aviators.

"*We're instructor-pilot heavy*," observed A Troop commander, CPT Paul Spencer. "*Most of us had a lot of push-the-button experience before we came to this unit. That's changing. There are a lot of guys out there who did, in fact, come out of the schoolhouse and came right here . . . . We've got lieutenants with 600 hours flight time, and 400 of that is goggle(s) time—which is extremely high. It just takes us so long to get someone up to speed. It takes an Army guy a long time to get used to flying over water.*"

Pilots coming to the armed OH-58D course get initial weapons training over land at Fort Bragg, then go to the naval air stations at Jacksonville, FL, or Norfolk, VA, for underwater escape training in the 9D5 Dunker with helicopter emergency egress devices. An OH-58D accident in September near Fort Bragg is under investigation but proved the value of survival training and equipment.

Prime Chance aircraft have two 15-feet long caving ladders stowed under their weapons stations that are released by a pull cable in the cockpit for rescue work. Combat SAR training with Special Forces at Fort Bragg has pilots fly in and under an OH-58D.

"*To be qualified, you have to be picked up and flown around day and night. And you actually have to do it the next day so we know, 'Okay, I'm trusting that guy up there with my life,'*" said CPT Spencer.

The SAR hierarchy makes the Black Hawk the primary rescue asset, the ship a backup, and the onboard ladders a last resort. "*That last resort comes up pretty quick when you've got your buddies out there in the water,*" explained B Troop pilot, Chief Warrant Officer 2 (CW2) Daniel Curry. The 4-17th never deployed a UH-60 aboard ship before being withdrawn from the Gulf.

Once qualified for overwater operations, Sea Cav pilots accumulate another 50 to 100 hours. Overwater gunnery is followed by missile training and more flying. Shipboard operations are conducted off the NC coast, but some deck training takes place as far away as Bermuda.

Ships joining the Persian Gulf yacht club prepare in Middle East Force exercises that enable Army helicopter crews to brief the ship's company commander on their needs and mission.

The only modification to the ship itself is new deck markings to turn the single-spot LAMPS deck into a two-spot landing zone. The ship's officers are briefed on wind-over-deck requirements, but the OH-58D can take off with tail winds up to 20 knots (kt) and side winds up to 25 kt. Official wind limits are still to be set, but a ship in a convoy or minefield cannot maneuver to suit the helicopter.

With main rotors unfolded and the LAMPS helicopters already flying or in the hangar, the two OH-58Ds are usually parked at opposite corners of the deck. One will probably have a side or tailwind. Sea Cav pilots practice takeoffs and landings by day and night, with and without landing aids, but they request the ship be blacked out for NVG operations.

Life onboard ship

The LAMPS III frigate, *USS Nicholas*, operated during Desert Shield and Desert Storm with two SH-60B Seahawks of HSL (helicopter submarine light)-44 [Seahawk squadron] sharing its deck with two OH-58Ds of B Troop, 4-17th.

Life onboard ship is admittedly a culture shock for soldiers given cots in small crew lounges or borrowing the bunks of sailors working during the day. Navy "smallboys" usually have two lounges. The Sea Cav detachment typically bunks four aviators in one room and six enlisted maintainers in the other.

"*We're normally working a different schedule from the rest of the ship*," said CW2 Curry, "*and it gives us our own little space. In many instances though, lounges aren't available. We hot-rack with the chiefs, we hot-rack with the enlisted guys. We hot-rack with the officers . . . .*

"*During the war, many of us slept up in the hangar, just for fear. We didn't like the idea of mines. We didn't want to be below the water line . . . , also we'd be closer to our helicopters, the (gas) masks, and everything else.*"

Maintainability of the OH-58D

Gulf deployments were 35 to 50 days for pilots, and 45 to 75 days for enlisted maintainers. The two helicopter detachments included four commissioned or warrant officer pilots, two crewchiefs, one armament specialist, one avionics specialist, and an electrician, all cross-trained to assist one another. The OIC was the senior aviator who communicated with the ship's captain or executive officer.

Early in 1990, use of the big mobile sea bases was discontinued. The OH-58Ds were maintained in the LAMPS hangars with only a small spares package. A shore-based aviation detachment in Bahrain provided limited repair facilities; however, most work was done by experienced maintainers working under flashlights in the heat and humidity of the Persian Gulf.

"*One thing I'm impressed with, with this airplane, is the maintainability,*" said CPT Spencer. "*We beat the living hell out of these airplanes, slamming them on decks, pushing them in, pushing them out, folding them up. And we continue to fly them.*"

Operating the sea scouts

Sea-deployed OH-58Ds flew in pairs usually 25 to 50 hours a month. Always operating within 100 lb of maximum gross weight, the OH-58Ds flew about 1 hour and 45 minutes before returning to hot refuel aboard ship and go out again.

Pilots qualify in both right and left seats. Once at sea, the pilots will regularly swap seats and rotate crews to spread workload and experience. The left seater operates the MMS and radios, and leaves the pilot free to keep his eyes out of the cockpit.

The OH-58D was originally designed to designate targets for HELLFIRE missiles launched from other platforms.

Both crewmembers keep their aviator's night vision imaging system (ANVIS) goggles down throughout the mission, looking under the tubes to see the multifunctional cockpit displays.

Sea Cav pilots spend most of their time below 50 feet to see the water through NVG. Above 50 to 60 feet, the sea surface loses texture and gives the aviator no external reference at night. Ideally, water with a slight "chop" provides a well-defined surface, but thermal inversions trap dust and humidity in a characteristic Gulf haze that makes NVG-flying all the more difficult.

"*Each pilot in the unit starts out definitely fearful of it,*" admitted CW2 Curry. "*You work to a level where you tolerate it. You never really get used to it, and you go out and do the mission. It's very demanding, especially knowing you're as close to the water as you can get, in a single-engine helicopter, flying instruments.*"

"*The other extreme is on a full-moon night with about a 2-foot sea-state, you can see beautifully. It's absolutely beautiful,*" added CPT Davis. Aviators in the 4-17th have yet to receive NVG heads-up displays, and keep the radar altimeter "bug" set at 20 feet to provide an audible warning if they get too low.

Depending on the ship, the armed scouts work as a team with the LAMPS I Sea Sprite or LAMPS III Seahawk. According to CPT Spencer, "*We prefer to work with the FFGs, with the LAMPS III. That's an incredible airplane. The Navy did good on that one. They have a better radar, and they can pick us up.*"

The OH-58Ds fly out front, one slightly higher than the other. Both are trailed by the Navy helicopter flying higher still to make use of its search radar.

The LAMPS aircraft provide contact range and bearing. "*They don't control us. They vector us. If the flight lead[er] of our detachment says he wants to investigate something, he investigates it . . . unless of course the ship's captain says do not go near that.*"

The scouts talk to one another on secure frequency-modulated radio and with the LAMPS helicopter and ship on secure ultra-high frequency.

The mask-mounted sight

The McDonnell Douglas MMS with thermal imagery, low-light television, and laser rangefinder/designator makes the overwater scouting mission possible. Contracts can be identified at 1 to 10 miles or more, depending on conditions, and if the sight has been installed on ships operating in the Gulf.

The MMS enables helicopter crews hidden in darkness to observe contracts from a safe distance and fire on confirmed targets with a choice of standoff weap-

Prime Chance gave the OH-58D a choice of weapons including Stinger air-to-air missiles, HELLFIRE air-to-surface missiles, 50-caliber machineguns, and 70mm rockets.

ons. Most overwater surveillance and scouting missions were flown with gun and rockets. Heavy HELLFIREs were carried only for specific missions. Stingers were always available but rarely used.

Choice of weapons

The choice of weapons depends on the mission and the pilot. Hydra-70 rockets with multipurpose submunition (MPSM), flechette, or point-detonating, high-explosive incendiary warheads can be mixed within the same seven-shot pod. Generally, rockets are used on targets beyond 1,000m and the gun closer in, but the rockets are effective at closer ranges.

Unguided area weapons can be aimed with or without the help of the MMS. If the left seater locks the sight on the target, the pilot centers the aim point on his panel display and has the target azimuth. Elevation is adjusted to suit the weapon.

Tracer rounds from the 50-caliber machinegun can actually be seen on the forward-looking infrared (FLIR) displays. The ancient M2 gun also carries an Israeli-developed AIM-1DLR laser-aiming device that projects a spot of infrared light invisible to unaided eyes but easily seen through NVG. The OH-58D pilot puts the aiming dot on the target to see where rounds will fall.

For a HELLFIRE shot, the MMS laser is controlled by the left-seater, and the missile is fired by the pilot. The maritime environment, nevertheless, makes things difficult.

"That isn't in any means talking down the HELLFIRE missile," explained CW2 Curry. *"Because in our flight regime, when you're working around water with small contacts, a lot of times you get laser energy bouncing off the water . . . , so a lot of times the missile doesn't get a real good lock on."*

The Prime Chance OH-58Ds are shielded to Navy's 200 volts per meter electromagnetic vulnerability standard. Likewise, Sea Cav weapons are cleared to shipboard hazards of electromagnetic radiation to ordnance (HERO) standards.

The air-to-ground 114B HELLFIRE missile has a safe-and-arm device in front of the motor for the U.S. Marine Corps to take it aboard ship. The firing electronics and Mark 66 Modification 2 motor of the Hydra-70 rocket are HERO rated, but the M261 submunition has only provisional clearance for shipboard use by the 4-17th. An approved safe-and-arm device for the MPSM remains unfunded.

Scouts at war

A and B Troops of the 4-17th flew throughout Desert Shield and Desert Storm. On 18 to 19 January 1991, B Troop OH-58Ds were on hand to claim the first Iraqi prisoners of war from armed oil platforms in the Persian Gulf.

On 26 January 1991, two B Troop helicopters left the *USS Curts* to investigate a potential minelayer. They were diverted to an Iraqi-held island and ultimately liberated the first piece of Kuwait and took 29 more prisoners.

A Troop went ashore during the second week in February 1991. With the help of a handheld global positioning system receiver, A Troop entered Kuwait with U.S. Special Forces.

NVG were blinded by the dense smoke of burning oil wells, but the FLIR in the MMSs made it possible to see about 1/4 mile ahead and avoid Kuwaiti power-

lines. The armed scouts encountered only surrendering Iraqis and were on hand for the liberation of the U.S. and British embassies in Kuwait City.

At sea, night-capable attack helicopters aboard ship extended the reach of naval commanders. Two OH-58Ds were launched on 16 February 1991 from the LAMPS I frigate, *USS Jarrett*, on a night coastal reconnaissance flight, but were redirected by the ship about 15 minutes into their mission. The OH-58Ds were sent about 40 miles north to perform bomb damage assessment on an Iraqi Silkworm site hit by Navy A-6 Intruders.

The helicopters flew up on instruments through heavy rain, and found the antiship missile site intact. A "scram order" rushed them out of the area as the carrier jets struck again.

The two helicopters refueled aboard the *USS Jarrett* and launched once more with HELLFIREs and a more complete target briefing. An unmanned air vehicle (UAV) from the battleship, *USS Missouri*, found the site had survived the second bombing.

The Sea Cav crews were ordered to attack. They flew north again on instruments and made a first pass in the area to orient themselves. A HELLFIRE launched on the second pass went ballistic, but the missile fired on the third pass hit and destroyed the Silkworm launcher.

Another UAV confirmed the target had been destroyed and revealed the first missile had hit an ammunition dump. The strike paved the way for an important deception. "*What it did was, it enabled the naval task force and the amphibious assault force to do the feint,*" explained CW2 Curry. "*The Navy wouldn't go up any further until they knew the site was inactive. When we took out the site that evening, the naval task force moved and prepared for the feint.*"

Speculation that the Silkworm site itself was a decoy was settled once and for all in March 1991 when the OH-58Ds returned to the area and confirmed the destruction of a real, life threat.

Multipurpose light helicopter (MPLH) kits

Effective as they have been, the Prime Chance OH-58Ds were a makeshift solution to an immediate need. The first of 279 "productionized" Kiowa Warriors were testing MPLH kits in October 1991. The first Kiowa Warriors will join C and D Troops of the 4-17th. The unit has an authorized strength of 33 armed scouts, including a command and control aircraft.

Structurally stronger and more powerful than the Prime Chance aircraft, the Kiowa Warrior has kneeling landing gear, a folding vertical tail, and other changes to simplify rapid deployment. It rationalizes cockpit controls and displays, and incorporates the Honeywell ANVIS display symbology system to superimpose essential flight data on NVG imagery.

Friendly encounter between an Armed OH-58D and a U.S. Navy Los Angeles Class attack submarine.

Quick-change folding weapons mounts do away with loose cables hanging from Prime Chance aircraft. A data loader, 2-hour video recorder, and other systems will be useful additions for maritime and other complex missions.

MPLH kits include external seats for up to six troops, a belly hook, external litters, and other accessories that can make the OH-58D almost anything it has to be.

The Sea Cav's future mission

The XVIII Abn Corps has a contingency mission. The Kiowa Warriors are rapid-deployment assets to support "forced entry" operations and keep fighting until heavier forces arrive. The 4-17th also is the U.S. Army's first Corps-level cavalry squadron, not tied to division commanders but available to fulfill the needs of the Corps commander. "*With the Kiowa Warrior, you've got a great platform to do it,*" said LTC Simpson.

Just how the U.S. Navy plans to protect its ships at night against a small-boat threat is still to be seen. The AH-1W SuperCobra and HH-60H Seahawk both promise night armed attack capability in the future. The end of Persian Gulf deployments will enable the 4-17th to concentrate on the Corps cavalry mission, but if the need arises, the boat people and their armed scouts can go to sea again. ❐

Operation Provide Comfort

Aviation Operational Flexibility At Its Best

Colonel E.E. (Butch) Whitehead
Commander, 159th Aviation Group (Airborne)
Fort Bragg, NC

Captain Bill Morris
Assistant S3, 159th Aviation Group
Fort Bragg, NC

Operation Provide Comfort (OPC) I and II were the humanitarian aid and security missions supporting the Kurdish refugees in Northern Iraq. These missions were a tremendous undertaking for Army Aviation units taking part in the operation.

The 6th Brigade, 3d Infantry (Inf) Division (Div), suddenly found itself the controlling aviation headquarters for all aviation assets under Joint Task Force Bravo (JTF-B) of the Combined Task Force (CTF).

After the longest AH-64 Apache battalion self-deployment ever, from Europe to Northern Iraq, the brigade quickly established its Aviation Task Force (ATF) headquarters. Based out of Zakho, Iraq, from 28 April to 23 June 1991, the ATF provided the direct link for the JTF-B commander supporting the humanitarian operation. The ATF also was the deterrent security force in the Tactical Area of Operational Responsibility (TAOR) (figure 1).

The ATF was capable of quickly mustering massed forces of attack helicopters and assault helicopters at a moment's notice; it provided a quick, maneuverable force that could stem Iraqi advances, control crowds, secure key terrain, and present a show of force anywhere in the TAOR.

OPERATION PROVIDE COMFORT I

The initial aircraft force package consisted of an Apache squadron and a battalion task force—an aerial reconnaissance (recon) troop (OH-58D Kiowa), an assault helicopter company (UH-60 Black Hawk), a medium-lift section (CH-47D Chinook), and a MEDEVAC (medical evacuation) (UH-60V) section. A plused up infantry platoon (plt) and TOW section from the 3-325th Airborne Battalion Combat Team also were added as the ATF commander's ground force (figure 2).

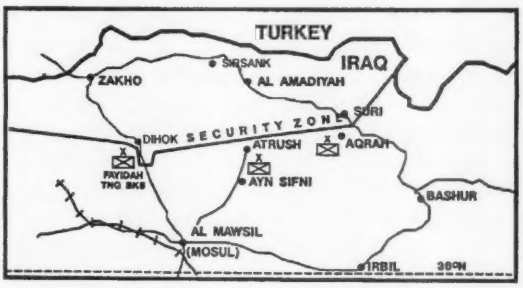


Figure 1. Provide Comfort TAOR

Air	Ground
18 AH-64	Abn inf plt (+)
12 OH-58C	TOW section (high
6 OH-58D	mobility, multi-
12 UH-60A	purpose wheeled
4 CH-47D	vehicles)

Figure 2. ATF Composition OPC I

The ATF incorporated numerous implied tasks inherent with these missions. The first and foremost was for the ATF to establish air traffic control (ATC) procedures within the region;for example, humanitarian assistance missions to Special Forces mountain base camps; VIP support missions by day; and specified security and reconnaissance missions around the clock.

Army airspace command and control (A^2C^2) measures were a must because these elements used the same airspace daily: a Marine expeditionary unit (MEU) with associated aircraft collocated with the ATF; and an additional Army Aviation task force (JTF-A)—a heavy-, light-, and medium-lift capability operating out of nearby Silopi, Turkey.

The ATF became the proponent for developing an air route/corridor structure for the ingress and egress routes of Northern Iraq. Being responsible for the airspace inside the security zone also meant being responsible for the implied combat search and rescue (CSAR) mission for downed aircraft throughout the TAOR.

Working with Navy sea-air-land (SEAL) teams and Air Force special operations aircraft, the ATF conducted CSAR alerts with organic UH-60 and AH-64 assets. These exercises ended in a pickup operation using ATF aircraft and Navy SEALs, while Air Force F-15 pilots provided immediate close air support (CAS) deep within the Northern Iraq security zone.

Daily coordination between the ATF and Air Force liaison officers assigned to JTF-B became a recurring ritual achieving the joint air attack team (JAAT) operations that yielded vital intelligence requirements and enhanced show of force objectives. The JAATs gave the ATF aviators a plethora of preplanned and unscheduled JAAT missions both day and night, providing multiple training opportunities throughout the operation.

As a major maneuver command, the ATF was tasked by JTF-B to plan and execute the forced entry take over of the city of Dihok, Iraq, the southern provincial capital (figure 3). Through detailed planning and interaction with multinational staffs from the United Kingdom (UK), France (FR), Italy (IT), and Spain (SP), as well as U.S. Forces, a well-defined, rehearsed plan was devised. Because of the overwhelming success of the multinational forces humanitarian efforts, and the security/show of force operations coordinated by the ATF, the operation was avoided.

Figure 3. Provide Comfort Security Disposition of Forces

The multinational forces began their retrograde movement from Iraq to the base camp of Silopi, Turkey. As they did so, the ATF became the planning/controlling agency for the air movement of multinational forces and U.S. Forces from the region by rotary-wing aircraft.

Included in this task were the closing of Sirsank Air Base (AB), once the proud, private, mountain airport for Saddam Hussein; and the timely phasing of the ATC apparatus from the ATF headquarters at Zakho, temporarily, to the Air Force airborne warning and control system (AWACS), and then back to the ATF after the move was completed to Silopi. This operation was truly a "change on the fly" in every respect of the word.

OPERATION PROVIDE COMFORT II

Before the end of OPC I, the ATF of JTF-B received a warning order that would change their mission and execute the formation of the Combined Battalion Task Force (CB-TF). A battalion in name only, this organization, with 3,000 plus personnel, was formed by the CTF commander to reassure the Kurds of the support of the U.S. Forces in stemming the menacing Iraqi Forces lurking just south of the 36th parallel.

This force would operate out of Silopi and continue to conduct security and reconnaissance, humanitarian, and show force missions only 13 miles from the old

ATF headquarters in Zakho. The ATF now consisted of an expanded mission package to include a multinational infantry battalion-sized force (figures 4a and b).

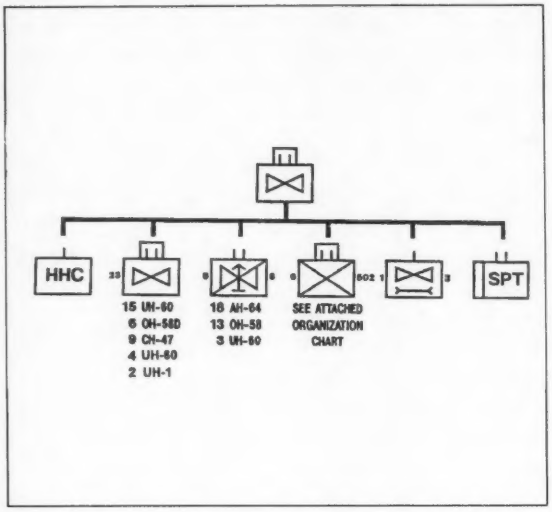


Figure 4a. Provide Comfort II Combined Battalion Task Force

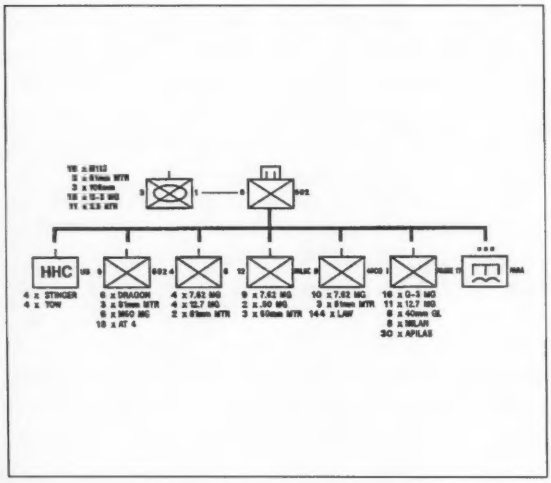


Figure 4b. Provide Comfort II Allied Ground Combat Force

This package (figure 5) gave the ATF commander the flexibility to return to Iraq, if necessary, to establish a forced entry forward operating base (FOB). Organizational makeup continued to support humanitarian operations, escorted by attack helicopter assets, to deliver goods and services equipment to the recently resettled Kurdish villages.

Air	Ground
18 AH-64	Inf Bn HQs (U.S.)
12 OH-58C	U.S. Inf Co (Light (LT))
6 OH-58D	UK Inf Co (Abn)
24 UH-60A	FR Inf Co (Abn)
9 CH-47D	Royal Dutch Marine Co(LT)
6 UH-60V	IT Inf Co (Abn)
	Turk Inf Co (Mech)

Figure 5. ATF Composition for OPC II

At the heart of tactical operations during OPC II, as mentioned previously, were the daily reconnaissance packages (figure 6). These packages consisted of an AH-64, an aerial reconnaissance section (OH-58D), and the readiness condition (REDCON) 1* postured quick reaction force (QRF) (figures 7 and 8).

Recon Package (Pkg)		Air Force Pkg
Recon	QRF	AWACS
5 AH-64A	1 Inf Plt	Fighters
3 OH-58D	1 TOW Sec	
2 OH-58C	6 UH-60	A-10
2 UH-60A	2 CH-47D	F-16
(C^2/Security)	1 UH-60V (Med)	Jaquar (UK) EF/F-111

Figure 6. Composition of Recon Package

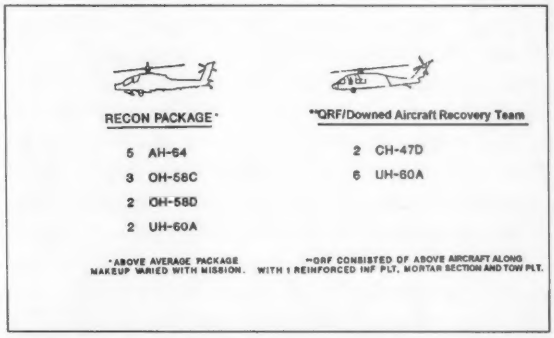

RECON PACKAGE*
5 AH-64
3 OH-58C
2 OH-58D
2 UH-60A
*ABOVE AVERAGE PACKAGE MAKEUP VARIED WITH MISSION.
**QRF/Downed Aircraft Recovery Team
2 CH-47D
6 UH-60A
**QRF CONSISTED OF ABOVE AIRCRAFT ALONG WITH 1 REINFORCED INF PLT, MORTAR SECTION AND TOW PLT.

Figure 7. Provide Comfort Armed Reconnaissance Mission Package

*Preflighted UH-60 and CH-47 aircraft with crews and infantry standing by the aircraft.

The ATF commander, along with the Apache squadron commander, carried out the operation across the breath and width of the assigned reconnaissance

area. Frequently the ATF commander required specific priority intelligence requirements or a large battle position/engagement area matrix based on the prevailing situation at the time. In which case, the ATF commander ordered a full squadron recon-in-force with the three attack troops operating simultaneously while working multiple engagement areas with preplanned CAS. These missions were the ATF and the CTF commander's only close eyes forward observing Iraqi troop movements.

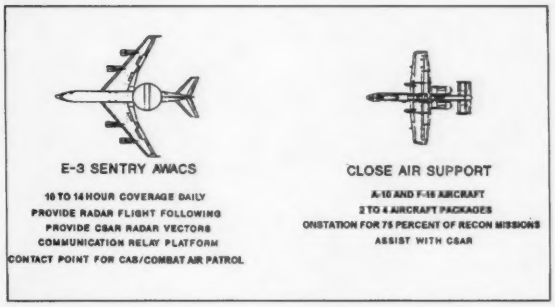

E-3 SENTRY AWACS
10 TO 14 HOUR COVERAGE DAILY
PROVIDE RADAR FLIGHT FOLLOWING
PROVIDE CSAR RADAR VECTORS
COMMUNICATION RELAY PLATFORM
CONTACT POINT FOR CAS/COMBAT AIR PATROL
CLOSE AIR SUPPORT
A-10 AND F-16 AIRCRAFT
2 TO 4 AIRCRAFT PACKAGES
ONSTATION FOR 75 PERCENT OF RECON MISSIONS
ASSIST WITH CSAR

Figure 8. Provide Comfort Reconnaissance Mission Package Air Force Support

Liaison with Air Force elements continued as an essential coordination effort during OPC II. Air Force AWACS linked the recon and security missions with home base ATC facilities at Silopi, the ATF commander's C^2 aircraft, and the CTF headquarters at Incirlik AB. Also they provided the ATF aviators the only means of flight following other than internal unit frequencies. This same coordination link was equally, if not more important, with Air Force tactical aircraft because of the depth of the security missions in the TAOR and the lack of a mobile force in sector to provide firepower in case of an engagement.

Working with the multinational force infantry companies of the CB-TF became a truly rewarding experience for all U.S. Forces involved in OPC II. Allied officers on all levels of the ATF staff shared in a valued and learned experience in their daily interactions with their U.S. counterparts. Each CB-TF infantry company commander was given a chance to conduct static and actual air assault mission training as each multinational company took its watch as the infantry force for the QRF. The same company commander also would attend the recon package air mission briefing each time.

Even with language barriers, all elements of the CB-TF coordinated their particular role in the mission. It was common place to have French or Italian soldiers safeguarding a downed ATF aircraft inside the Northern Iraq security sector until maintenance personnel arrived on the scene.

The CB-TF forces also were introduced to the mission essential task list (METL)-related training concepts of the ATF. These concepts emphasized battle drills for individual, crew, and collective tasks involving air assault operations and downed aircraft security procedures.

The ATF continued to execute not only their tactical mission profile but performed a multitude of other missions. Such missions included U.S. hostage pickup from Northern Rebel camps outside of the TAOR within Turkey, shuttle flights between Silopi and other logistical bases throughout the region, and VIP support missions. Flexibility was a daily watch word for the ATF staff and aviators as all aviation profiles became viable.

On 1 September 1991, the CB-TF organized into two operating bases to streamline aircraft maintenance procedures and enhance resupply operations to the forward locations. FOB remained at Silopi and the major logistical base became the North Atlantic Treaty Organization airstrip at Batman, Turkey. Forces at Batman fine-tuned aircraft maintenance; received, sorted, and organized parts; and were prepared to reinforce Silopi in case of an attack. Having the force at Batman further streamlined the impending redeployment operations to Incirlik and the eventual return of the ATF and the CB-TF to Europe. Forces at Silopi continued to conduct the daily recon package operations until the closing days of OPC II. The ATF also helped the new Air Force Task Force out of Lakenheath AB, England, familiarize their F-111 and A-10 crews to the TAOR through integration into the daily recon packages.

THE AVIATION FORCE IN CONTINGENCY OPERATIONS

After operating for 6 months in support of OPC I and II, the ATF under the 6th Brigade, 3d Inf Div, found that the ATF is, indeed, the best tailored force to undertake a contingency mission of this type in the future. A heavy division aviation brigade was called on to completely reorganize and redirect the METL of the brigade and attached units to undertake the full spectrum of aviation operations.

The ATF found that integrating ground forces into the ATF was a viable means of force structuring to meet the mission contingency requirements. An ATF has the wherewithal from within its own organic apparatus to support a variety of contingency missions that adhere to the commander's intent in every instance.

Aviation Supply Support For Operation Provide Comfort

Captain Paul Werner
70th Transportation Battalion (AVIM)
APO NY

On 6 April 1991, President George Bush ordered U.S. Forces to deploy to Turkey and Northern Iraq. The mission was to provide humanitarian relief and security assistance. Elements of the Army, Navy, Air Force, Marines, and other foreign nations were involved. Over 20,000 troops were deployed to Turkey and Iraq to support this operation.

Deployments

All U.S. Army Aviation units that initially deployed to Turkey, self-deployed. The only logistical support was aviation unit maintenance (AVUM) and unit prescribed load lists (PLLs). There was no aviation intermediate maintenance (AVIM) capability or aviation supply support.

On 26 April 1991, the decision was made to augment the 65th Maintenance (Maint) Battalion (BN)-Forward with an aviation supply element from the 70th Transportation (Trans) Bn (AVIM). This would establish aviation supply support for the theater.

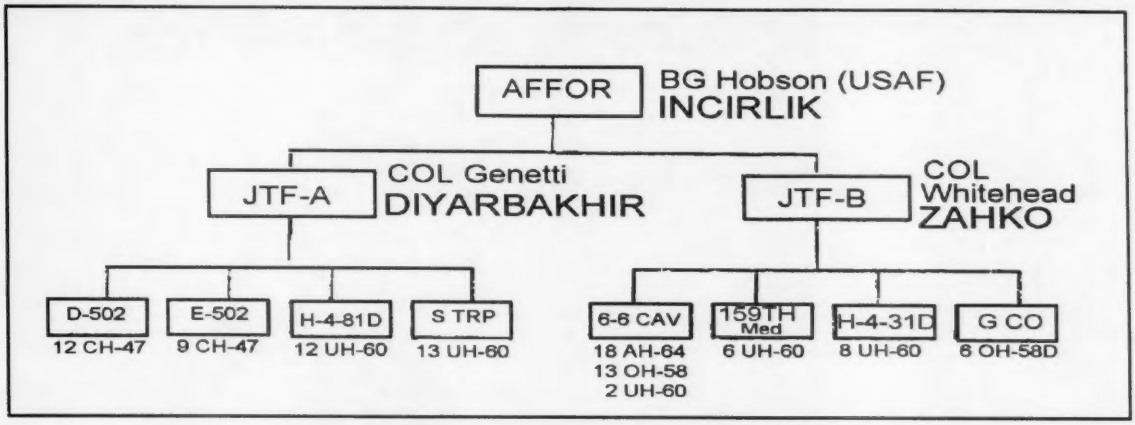
On 30 April 1991, elements of the 70th Trans Bn were on the ground at Incirlik, Turkey. Within 2 days, supply support was established. Within a week, two AVIM companies deployed to the theater to support the Combined Task Force (CTF) Provide Comfort. The 70th Trans Bn was tasked to provide four specific missions and an on/order mission.

Missions

The first mission was to act as the theater agent for aircraft on the ground (AOG) supply requests. The AOG program was initiated by the former U.S. Army Aviation Systems Command (AVSCOM) before Operation Desert Storm. The AOG system allowed the supply requester to order aviation repair parts for grounded aircraft directly from the National Inventory Control Point (NICP). This dramatically reduced the order ship time by bypassing several layers of the supply organization hierarchy. The NICP for all aviation supply requests originating in Turkey was AVSCOM.

The *second* specified mission was to receive, store, and issue all aviation intensively managed items (AIMI) within the CTF Provide Comfort area of operations (AO). The 200th Theater Army Materiel Management Center (TAMMC) and AVSCOM provided push packages of AIMI stocks for all aircraft within the theater. Generally, AIMI was pushed forward to Turkey in a quantity of four per National Stock Number (NSN) per aircraft type. The AIMI stocks occupied over 8,000 square feet of storage space. The manual supply system was used to requisition and replenish stocks.

The *third* specified mission was to act as a supply conduit for both Aviation task forces. This service was catered to the individual joint task forces (JTFs) (see figure). JTF-A, commanded by Colonel (COL) Genetti, was stationed at Diyarbakhir, Turkey. We provided supply conduit through the use of a daily courier on a U.S. Air Force (USAF) C-130 Hercules aircraft. All requisitions, supply statuses and any other correspondence were passed using the courier. JTF-B, commanded by COL Whitehead, stationed at Zakho, Iraq (see article page 12). JTF-B sta-



CFT Provide Comfort (Helicopter Organization)

tioned a full-time supply liaison at Incirlik to pass all requisitions, supply statuses, etc., to their forward element. All automated routine supply processes were initiated within the JTFs through their AVIM companies.

The *fourth* specified mission was to operate a break bulk point within the 65th Maint Bn storage yard. Repair parts coming from continental United States depots were consolidated with other classes of supply in palletized loads. When pallets arrived at Incirlik, each pallet was broken down and sorted by customer units. All aviation repair parts were then sorted into two shipments. One shipment was destined for Diyarbakhir (JTF-A), and the other shipment was sent to Zakho, (JTF-B). The shipments then were separated for customer distribution at the destination by the AVIM companies.

The *on/order* mission was to provide supply support to any of the other services or allied nations within the CTF AO. At the height of operations, the following service elements and nations were involved: USAF helo, Navy helo, Marine helo, France, Germany, Great Britain, Italy, Netherlands, and Spain. All allied nations support was coordinated ultimately through CTF headquarters with the State Department.

Accomplishments

The 70th Trans Bn (AVIM) supply element faced many challenges upon arriving in Turkey. Initially, only the soldier and certified table of allowance (CTA-50) equipment arrived. We had to improvise on many areas of supply operations and borrow many pieces of equipment from the USAF at Incirlik. Material handling equipment was scarce in all locations. Communications were taxed to the limit at Incirlik. Communications between Incirlik and forward areas were also sporadic. Transportation was very scarce. Also, all helicopter assets were used for mission support, and none were available for dedicated logistical support.

Improving our facilities and the capability to support our customers would not have been possible without the continuous support of the USAF and the base support personnel at Incirlik. Every agency on base, from the communications squadron to the base engineer, went out of their way to assist us in securing facilities and equipment to accomplish our mission. We were welcomed with open arms.

Lessons Learned

Many lessons were learned from this deployment. One lesson was that it is possible to mix aviation and ground repair parts in a single shipment, but it is not the preferred method of resupply. Vigilance is required to prevent the wrong parts getting sent to the units. All pallets that originate from a parent unit should be identified with a distinctive, day-glow stencil marking. This can be a real time-saver when searching through five pallet yards containing thousands of pallets. The AOG program should be renamed to conform to the USAF acronym that has the same meaning, i.e., MICAP. MICAP stands for mission critical aircraft parts. Nearly everyone in the USAF understood what MICAP was and its level of priority. AOG did not have the same visibility or required response.

Conclusion

Operation Provide Comfort was truly an opportunity to practice innovative supply procedures, in an austere environment, on short notice. ❐

CPT Werner was assigned to the70th Transportaton Battalion (AVIM), Incirlik, Turkey, when he wrote this article.

Combat Search and Rescue:

Whose Responsibility?

Lieutenant Colonel Virgil L. Packett II
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Harvard University
John F. Kennedy School of Government
Cambridge, MA

Captain(P) Bobby Brooks
S3, 4-229th Assault Helicopter Battalion
Illesheim, Germany

The wave of military response in the future will demand that the U.S. fighting forces have the contingency mentality to deploy anywhere, anytime, in any environment to perform the full spectrum of military roles and missions. Compounding the issue is the fact that this contingency mentality must include our sister services and allied forces. One of the most lingering and anguishing results of the military missions is coping with those lost, separated, or missing in action. Especially today when, after 20 years of formal negotiations, Americans still are searching for answers about those missing in action in Vietnam.

We are obligated to minimize this devastating situation. One piece of preparedness for these missions, often overlooked but important to our morale, is the recovery of personnel once they have been unexpectedly separated from the unit. Translating personnel recovery from theory to application, using sound principles and detailed training, ensures we are ready to meet the challenges in all regions of the world.

This article highlights procedures for recovering personnel if they become separated or isolated from friendly surroundings.

Lessons Learned from Operation Provide Comfort

The military of today know how to get to the theater of operation, conduct business, and go home. However, during the course of events, many obstacles can tarnish an otherwise successful mission.

The 6th Squadron, 6th Cavalry (SixShooters), Illesheim, Germany, learned some valuable lessons during deployment from April to October 1991, while supporting Operation Provide Comfort. The call to duty came with 4 days' notice to deploy to northern Iraq. This development forced a new way of thinking away from combat with large formations; it focused our attention, especially in terms of civil and military operations, to operations in an austere mountainous environment where the political and military situation was vague.

Joint Operations/Combined Task Force

Upon arriving, we found no linear line of troops. The indigenous population was fighting among themselves and with Iraqi forces. We came together, not only in a joint operation but under the auspices of a combined task force (CTF) with 13 different nations in the coalition and a host of nongovernmental organizations and civilians.

Operations required ground and air units to work at depths up to 150 kilometers throughout the day and night in this hostile guerilla-type environment. Numerous opportunities were presented—convoys along extended routes, patrols deep behind enemy lines, isolated outposts, or flights through remote areas—

which could have easily left personnel in other than hospitable surroundings. Having an established recovery plan ready for activation is a big step toward ensuring a smooth, coordinated, and speedy operation will take place when needed.

Procedures for Linkup and Recovery

The SixShooters found themselves in a foreign land needing some way to provide their troopers the best chance to survive should they become isolated. They also needed procedures to follow to help the linkup and recovery process.

In a world that's perfect, all unit members already would have conducted training on such subjects as psychological aspects of survival; basic first aid; environmental aspects of the areas of operation; local customs; navigation; signaling; and survival, escape, and evasion principles. These basics are the foundation to expand training to more formal aspects of a recovery operation.

The U.S. Air Force (USAF), Navy, Marine Corps, and Special Operations units were the primary players and, ultimately, the best sources for formalizing procedures. Their mission profiles included standard procedures for personnel recovery. Designated assets were in place and ready to deal with putting a coordinated effort together. A coalition recovery effort was only a discussion point. Detailed training was pursued with our fellow services to develop evasion plans; communications and authentication procedures; load signals; and code words (see figure 1) for status, movement directions, and actions of isolated personnel. These procedures are summarized in Department of Defense (DD) Form 1833 (Isolated Personnel Report (ISOPREP)).

Pilot Status Code Words

Code Word	Meaning
Atlas	Pilot is not hurt
Whimpy	Hurt, but can move
Rock	Hurt and immobile

Pilot Direction Code Words

Code Word	Meaning
Chicago	North
Dallas	South
Boston	East
San Diego	West

Pilot Action Code Words

Code Word	Meaning
Daniel Boone	Walk
Stumpy	Stop
Ribbon	Road
Parakeet	Turn on blue strobe
Firefly	Turn on infrared strobe
Flash	Signal mirror
Patch	Signal panel
Soda Pop	Mark (MK)-13 Flare (day/night end accordingly)
Phoenix	MK-79 Pencil Flare

Figure 1. Code Words

Isolated Personnel Report

The ISOPREP contains personal information the combat search and rescue (CSAR) forces use for positive identification of isolated personnel. Upon completion, the card is classified "CONFIDENTIAL." The Squadron Intelligence and Operations section keeps it. Semiannually and before deployments, individuals review their ISOPREP card. When a new member joins the squadron, he must complete an ISOPREP card. When he is reassigned, the form goes as part of his personnel files.

The card becomes the critical link in the lifeline when a unit member is missing, separated, or isolated from his controlled environment. Operations personnel forward the individual's ISOPREP data by the fastest secure means available to the appropriate CSAR headquarters or operations center. Then, the CSAR operations center sends out data contained on the card to other elements, including allied forces, if practical, to assist in the recovery effort.

Authentication System

An effective authentication system is essential for several reasons. Normally, an isolated person will not receive assistance until his identity is authenticated. Most likely, the initial authentication will be transmitted by radio, using the standard operational instructions or authentication codes, via military standard survival radios. A standard operating system for the unit is essential to protect CSAR forces from compromise and to streamline the process.

While authentication can be accomplished in several ways, using data from the individual's ISOPREP has proven to be the most effective for our squadron. Other methods could include use of visual signals,

precoordinated linkup times, and rally points. Used as a last resort, these hip-pocket methods of visual identification generally are misleading and slow down the recovery effort.

Evasion Plan of Action

In addition, an effective authentication system, and an evasion plan of action (EPA) also must be developed for each new mission and changes to existing plans. The EPA is developed before a mission to improve chances for recovery of individuals based on information given to CSAR forces as to the predictability of the evader.

The EPA includes, as a minimum, the following information:

- Planned route to and from the mission area.
- Planned rally points for each leg along the route.
- Immediate individual and crew actions upon egress (i.e., linkup procedures, treatment of wounded, return of ground fire, etc.).
- Initial evasion movement goals and techniques.
- Extended evasion goals and techniques including general direction of evasion.

Load Signals

Load signals are key to assisting a rescue party if an evader loses radio communications. These signals consist of objects found in the immediate area, such as rocks or debris. Standard load signals are made of five rocks. Four rocks are placed in a square formation, with the fifth rock being placed at the corner of the direction in which the evader is moving. Load signals should be left to show CSAR teams your direction of movement. Load signals also should be left in a predetermined spot, for example, 30 meters from the nose of a downed aircraft, so a rescue team can find them yet they should not be obvious to enemy patrols.

Figure 2. Left to Right. Chief Warrant Officer (CW2) Mike Reese, Lieutenant Colonel V. L. Packett, and CW4 Chuck Ridenour with Kurdish patriots near Iraq-Iran boarder.

Code Words

The unit also should develop a series of code words to be shared with CSAR elements to communicate evader status, direction, and various actions. It is equally important to become familiar with the type of survival equipment accessible from your vehicle, rucksack, or mode of transportation. During all aviation-related missions, pilots carry side arms, survival vests, blood chits, and local currency to assist coordination with indigenous personnel.

Standard CSAR Packages

Standard force packages for CSAR operations were developed under the auspices of the CTF Headquarters in Incirlik, Turkey. CSAR assets had to be ready day and night to conduct operations. Elements from the Special Operations group (H-53 Sea Stallions), sea-air-land (SEAL) team, and AH-64 Apache and scout escorts made up the standard CSAR package. Coalition infantry platoons were placed on alert as downed aircraft recovery teams to assist in an emergency.

The CSAR operation also included an air combat aviation party by USAF assets staged in Incirlik, Turkey, or Navy fixed-wing assets off of an aircraft carrier in the Mediterranean Sea. Command and control was linked through airborne warning and control system aircraft. Constant communications were maintained with the Regional Rescue Center in Incirlik.

Standardizing CSAR Operations

Presently, the Army does not recognize a CSAR mission. Therefore, we were compelled to develop and standardize CSAR operations for our squadron. We were free to tailor our CSAR plans to the squadron's strengths and bolster the soft spots. Our plan was continuously refined, reviewed, and improved to mold the best packages with available assets as Special Operations units rotated in and out of the theater.

Each time a different unit or service picked up the CSAR mission, it was critical to have a face-to-face coordination meeting to establish standing operating procedures (SOPs). While the mission remained constant "to effect the recovery of personnel during wartime or contingency operations," each service used different procedures.

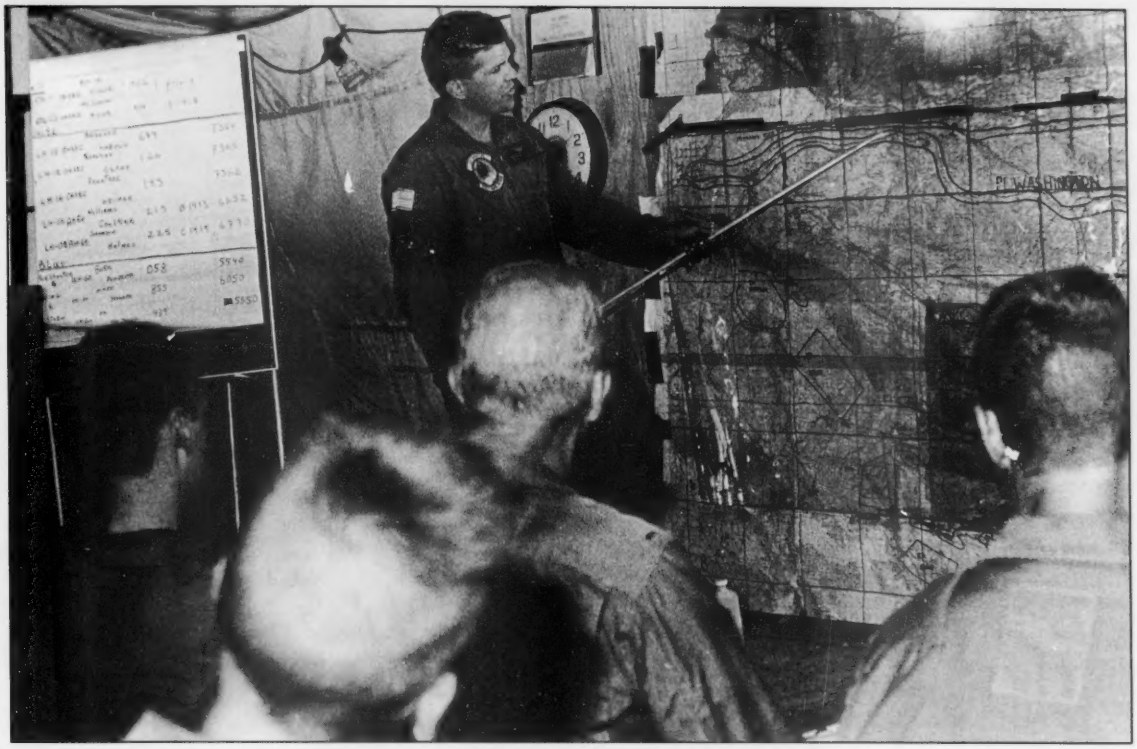


Figure 3. Chief Warrant Officer (CW2) Nelson LuBold, 6th Squadron, 6th Cavalry, conducts an operations briefing.

For example, the SEAL platoons supporting us initially operated in 4- to 8-man teams, relying on our internal lift assets and Apache escorts. Their methods of authentication, survivor handling, and communications varied from those of the U.S. Army Special Forces teams. Special Forces used USAF Special Operations lift assets and had the capability of ground indigenous support.

Again, differences in authentication, communication, and other internal procedures required close coordination. While all (Marine force recon, USAF combat controllers, and coalition forces involved) had CSAR expertise, the mixture of different forces caused a loss of continuity and coordination that had to be constantly reestablished.

Summary

CSAR operations in Southwest Asia have highlighted a new challenge facing military forces around the world. Procedures, experiences, and knowledge about these operations must be imbedded before deployment. CSAR operations are not simple. A lack of CSAR knowledge or experience will cause communication and coordination problems that could lead to unnecessary loss of manpower resources and intelligence information. This lack of knowledge or experience also significantly jeopardizes the recovery operation and well being of our personnel.

Units must have a formal SOP, training program, and a system to maintain unit records. The necessary tools like ISOPREP cards, EPAs, and code words are critical for an effective CSAR program. Using established forms, in other words, DD Form 1833, helps standardization among different branches of service or units. A unit must come with a plan in place and tailor it to the assets that provide CSAR support.

Conclusion

Our personnel are too precious to leave behind. Until the Army accepts the responsibility and formalizes procedures among the services, each leader's obligation is to be ready to deal with the recovery of personnel through CSAR operations. ❐

Lieutenant Colonel Packett served as the Commander, 6th Squadron, 6th U.S. Cavalry, Illesheim, Germany.

Attack Troop In The Gulf War

Chief Warrant Officer (CW3) Patrick S. Dameron
Q Troop, 4th Squadron, 2d Armored Cavalry Regiment
APO NY 09092

We were all impressed by the S-2's detailed graphics and knowledge. Linear and triangular defensive positions set up by the Iraqis seemed formidable yet not insurmountable. It was up to us to develop troop-level, attack helicopter tactics specifically designed for this enemy in this environment.

Q troop had aviators with experience in Vietnam; the National Training Center, CA; and Ft. Bliss, TX. Although we had combat and desert experience, we had no one with both. It was time to put our heads together, get out the books, and plan. We found little to prepare us for the desolation and lack of terrain relief in Iraq. All of our training in Europe had consisted of using terrain or vegetation to mask the aircraft. Entirely new tactics were needed.

The Plan

While still in Saudi Arabia, the S-2 had provided photos of specific Iraqi positions. We based our tactics on these known locations. We knew that we might not receive timely reconnaissance (recon) during a conflict so we would have to rely heavily upon the air cavalry troops for battlefield recon. After all, the Iraqis were firmly entrenched and any attempt to relocate would result in devastation from the U.S. Air Force (USAF).

The best chance of defeating the antiaircraft artillery (AAA) threat lay in using our maximum standoff range. With 4,000 meter (m) TOW shots and rockets fired from 6,000m, we would be well out of priority AAA range. Priority AAA included small arms; ground/trailer-mounted, quad 23 millimeter (mm) ZPU-4 cannons; and the self-propelled, quad 23mm ZSU 23-4 cannons. By maintaining an altitude below 50 feet above ground level (AGL), we could degrade the low priority AAA such as the self-propelled, 57mm S-60 cannon, its associated radar, and surface-to-air missiles (SAMs).

The threat that concerned us most was the single soldier in an undetected fighting position. The Iraqis used "Y"-shaped fighting positions set up 500m in front of fortified company-level entrenchments with the fork of the "Y" to the front. These were to be used primarily as shoulder-fired, surface-to-air SA-7 Grail missile positions.

We used two methods to deal with these individual fighting positions. The first was our travelling concept: When travelling to an engagement area, our standard formation was staggered left by pairs with 500 to 1,000m between wingmen in the pair and 1,000 to 1,500m between pairs. All aircraft were using combat cruise. The troop was divided into light and heavy teams. The light team consisted of one OH-58C Kiowa, one OH-58 Air-to-Air Stinger (ATAS)-equipped, and two AH-1F Cobras. The heavy team was made up of five AH-1Fs and one OH-58C, which carried the air battle captain (ABC). The distance between teams was 2,000m. (See figure 1.)

This travelling concept allowed for freedom to maneuver and maintained organic fire support for all aircraft. We opted to spread our distance between aircraft to the limits of small arms fire, yet within covering range of the Cobra's 20mm gun. The ATAS-equipped observation helicopter (OH) was positioned in the middle of the flight to provide a 360-degree defensive posture against an air attack.

The ABC was in the rear of the formation so that he could track the flight's progress and guide it into the engagement area. This position also allowed him an overview of

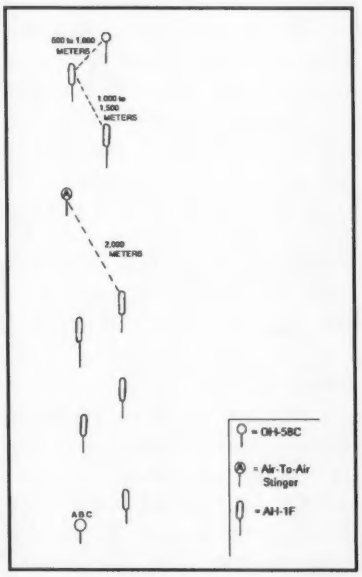


Figure 1. Light and heavy Teams

the flight in case any contingencies arose such as maintenance problems. He could decide on a course of action without breaking radio silence.

Our flight mode was 90 knots indicted air speed (KIAS) and as low as the pilot felt comfortable. The 90-knot figure was derived because it simplified navigation but, more importantly, because with a full tank of fuel, the ATAS couldn't go any faster. Low altitude was important because, with visibility generally 50 miles or more, it was our only means of stealth. By applying speed and nap-of-the-earth (NOE) flying, we hoped that any AAA that we bypassed would not have the time to engage us. If it did, we planned evasive maneuvers and suppressive fires.

Our second method to deal with the fighting positions was the target engagement technique. Upon arrival at our target, we would use maximum standoff and prep the target with multipurpose submunition (MPSM) rockets. This "peppering" would force dismounted troops into bunkers with overhead protection. A secondary effect was to cause vehicles to button up. A tertiary effect would be the destruction of unprotected radar systems and external equipment. We based our plan on the contingency that we were to engage a target solely with internal assets. We could easily amend our attack plan with the addition of artillery or close air support.

The ageing AH-1 fleet did not have an adequate engine filtration system to keep out the copious sand and dust. This led to severely limited flight hours to reduce wear and tear on the engines. We improvised with many hours of table talk and "bottle drills." We used discarded water bottles to represent aircraft as we pushed them on the world's largest sand table. This worked well for graphic representation of the planned attack.

Using an initial point (IP) as a base, the ABC would call the attack formation and attack heading about 10 kilometers (km) from the IP if it had not already been briefed. (See figure 2.) Just before the IP, he would call "light left" (or

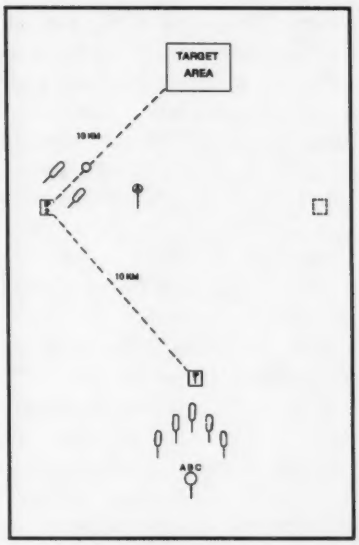


Figure 2. Ten km from the IP—the attack formation.

right). This call informed the light team to turn 45 degrees left or right of the attack heading at the IP.

Upon reaching IP1, the light team lead would call "light team IP1 inbound." The heavy team would move into a wedge formation and slow to 60 KIAS or "gear 2" as we called it. At IP2, the light lead would call "IP2." This signaled his two Cobras to move past him on line at an attack speed of 100 KIAS. The ATAS was to move 500 to 1,000m toward the heavy team to provide air defense coverage to both teams while they were engaging the enemy. When the heavy team heard the "IP2" call, they were to accelerate on line at an attack speed of 100 KIAS.

Six thousand meters from the target, the light team would launch a salvo of rockets. The type and number of rockets depended on the type target. As the light team drew the attention and broke off the engagement, the heavy team was in position to fire its first salvo of rockets. Following the rocket engagement, both teams would continue inbound to 4,000m, at which point TOW missiles were launched.

The light team would disengage and maneuver toward IP2. While the heavy team was engaging, the ABC would conduct a battle damage assessment (BDA) and call for a reengagement or IP1. If a reengagement were called, a new heavy team attack heading was given, and the light team reengaged from the same heading as it had originally. Following the reattack, the teams would rally at IP1 and reform for the flight to "oasis" commonly called the forward arming and refueling point (FARP).

We practiced these tactics on a fixed simulated target. After four dry runs we had the timing and distances down pat.

Using maximum standoff range, and low-altitude, high-speed, and diversionary tactics, we could destroy or disrupt any fixed or slow-moving target. Now if only all the variables would fall in place.

The S-2's briefings gave us the latest enemy locations from airborne surveillance. We felt comfortable knowing the exact locations. Getting to these locations posed a small problem. Our most reliable navigation system was the Cobra's Doppler. It's a good system; however, without continuous updates on a long flight, it can become several hundred meters in error. It was not possible to update the Doppler because of the lack of recognizable features in the desert.

The scouts in the lead OH-58 relied on pilotage and dead reck-

oning or time, distance, and heading (TDH). TDH is great on a calm day or with steady winds. If one can visually check one's progress by verifying checkpoints on the ground, TDH is excellent. Flying over one of the biggest beaches in the world makes this impossible. TDH backed up with the Doppler was the best we could do. Then we were saved. GPS!

The Global Positioning System told us exactly where we were, to a 10-digit grid coordinate; how long it would take us to get to our next point; and a myriad of other calculations. Two weeks before the ground assault was to begin, we received the GPS, and quickly worked it into our tactics. This system was so effective and simple to use, I am convinced that it should be standard in all Army aircraft.

Near Miss

"Guns on line!" The ABC's voice was clear and unwavering over the very high frequency (VHF) radio. Five Cobras changed formation from a heavy left wedge to abreast. Aircraft separation was 500 to 1,000m. The ABC was in the overwatch position 500m to the rear. The attack troop was moving east at 60 knots.

"Light team has negative contact," came the response from the scout platoon leader. The light team was 1,000m to the north, moving on line with the heavy team. The ATAS was making S turns every 1,000m between the two teams.

The target was reported by the 2d Armored Cavalry Regiment (ACR) ground elements to be numerous Iraqi T-72s on line at 6,000m, in the open, on the northern flank. As the visibility began to decrease to 2,000m, the formation tightened to maintain visual contact with each other. By the time visibility was down to 1,000m, aircraft separation had dwindled to 200m.

"Target 12 o'clock, 600 meters, lasing!" Pulses quickened and mouths dried as the Cobra called in its report. "Target! 1,000 meters! Confirming..." "Cease fire! Cease fire! They're M1s! M1s!."

* * * * * * *

A likely scenario? This is an actual account of a near engagement on friendly troops on 25 February 1991 during Operation Desert Storm. Fortunately, one Cobra had a better view of the vehicles and called the cease fire. With visibility about 1,000m, the Cobra's telescopic sight unit (TSU) could make out vehicles at a greater distance than the naked eye. However, dark objects in low visibility all pretty much looked the same. Though coalition vehicles were painted with an inverted "V," they were often too small or difficult to see.

Ground vehicle identification friend or foe (IFF), with both interrogation and reply modes, fully integrated with aircraft and antiaircraft IFF is a viable alternative and a reasonable expectation.

Our tactics to this point had been contingent on good visibility; stationary targets; and reliable, timely, and accurate reporting of enemy positions. We had assumed, consistent with textbook doctrine, that the air cavalry troops would confirm the enemy, fix their location, and provide all essential information in a target handoff. The battle was moving so much faster than predicted that it became a "hip-shoot."

During a fast-paced ground war over level, open terrain, armored vehicles spearheading an attack can and will outrun a careful, methodical air reconnaissance, especially in conditions of reduced visibility. Such was the case during Operation Desert Storm. A 20 km aerial screen soon dwindled to 5 km or less. Without thermal imagery or advanced optics, reconnaissance by air is little better than by ground. P troop, 4-2 ACR fared better with their OH-58Ds; however, there were not enough of them to cover the entire squadron sector. By the time the attack troops could arrive onstation, the enemy was decisively engaged by the ground troops. This led to hesitation on the part of the aircrews to engage targets. Targets for attack troops should not conflict with ground force targets. Bearing in mind these problems, we readjusted our tactics.

Rigidly Flexible

"Semper Gumby!," one soldier joked. There is a truism in that statement that has been expressed in many like aphorisms. The most well known of which is Murphy's Law: Whatever can go wrong, will. Tongue in cheek as they may be, these adages express the need to be able to change tactics at a moment's notice.

We had a well-diversified plan based upon current information and doctrine. Our mistake was a lack of foresight regarding small unit tactics in a rapidly changing scenario. It is true that every contingency cannot be accounted for; however, by looking at the major turns the battle could have taken, we should have had several alternative plans from which to choose.

We ruled out mass Iraqi troop movements because of USAF interdiction. This meant that the Iraqis would either fight in place, attack when attacked, retreat, or surrender. Since all of the intelligence data that we had received indicated extremely well-dug-in troops, we had to assume that they would fight in place. Mass surrender was very low on our list of possibilities.

By the time the ground war began, the Iraqis were so devastated by the air campaign, their doctrinal organization was shattered. The 2d ACR M1 Abram tanks were picking through destroyed and abandoned Iraqi T-55s, mobile tank launched bridges (MTLBs), ZSU 23-4s, and other vehicles. The M3 Bradley tanks were charging through the heart of Iraqi defenses. Coalition and Iraqi vehicles were intermixed throughout the objective area known as "Merrell," about 150 km inside Iraq.

Our problem was getting close enough to a vehicle to identify it positively without being destroyed in the process. Even with the Cobra's TSU, 500m was the maximum distance we could positively identify a defilade tank as friend or foe. This distance was further reduced by poor visibility because of weather. This was unacceptably within range of all enemy AAA.

We found our solution by returning to the basics. "Scouts out!" An unarmed, optically unenhanced OH-58C was our answer. Vietnam experience brought forth the hunter-killer team concept. We were relegated to the position of sending a scout to find the enemy vehicle and use the killer Cobra to destroy it.

The OH-58 can generally spot a target sooner than the AH because of better visibility from the cockpit. However, the OH must ask the AH to positively identify the target with his TSU.

To minimize risk yet maintain firepower, we became an attack troop using air cavalry troop tactics. Our plan consisted of dividing troop assets into two teams: One team with one OH and two AHs; and a lead team of one OH and three AHs. These teams were separated by about 1,000m in a wedge. (See figure 3.)

Using this concept, the lead scout would locate a vehicle, have the Cobra identify it, and, if necessary, destroy it. If more firepower were needed the other teams could quickly join in the fray. The only test of this plan was when one of the teams was separated from the rest of the troop because of maintenance. This team was en route to rejoin the rest of the flight when they received an urgent mission.

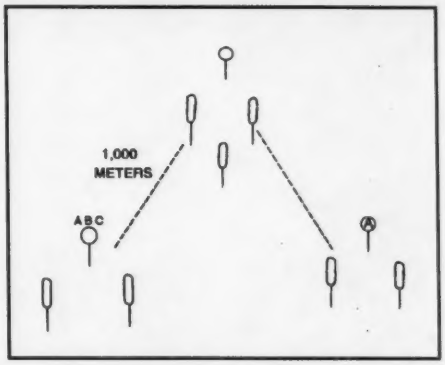


Figure 3. Troop assets divided into two teams.

MTLBs had been spotted by ground troops maneuvering among destroyed Iraqi tanks. The lone team was only 5 km from the target area when the call came through. The scout located the vehicles, had the Cobras positively identify them, and then began performing rear and flank security. Four MTLBs were destroyed.

The following day, the cease fire was initiated. We continued to use these tactics throughout our stay in Iraq, Kuwait, and Saudi Arabia. However, the fight was over.

Lessons Learned

The main objective of an armored cavalry attack helicopter troop is to destroy enemy armor. Doctrinally, we were employed as a regimental reserve on call to destroy enemy armor the ground squadrons fixed or were overwhelmed by. This meant that we had to know the exact location of the enemy as well as our own location. Our lessons learned were as follows:

Over flat, featureless terrain, a reliable and accurate navigation system is a necessity. Timely and accurate reporting of the enemy situation and location is imperative. If attack helicopters are called to engage a target area that is interspersed with enemy and friendly vehicles, fratricide will occur in alarming numbers. Identification is improving with the deployment of enhanced optics on the OH-58D, AH-64 Apache, and RAH-66 Comanche. As weapons ranges increase and vehicle country of manufacture cannot be used to IFF, a better identification method is needed. A portable, secure IFF for ground vehicles would solve this problem.

Our main lesson learned was that changing situations often dictate tactics. We know that using the factors of mission, enemy, terrain, tactics, and targets (METT-T) before every mission is mandatory for planning. But these factors can and often do change in mid-mission. If we allow ourselves a mind set tactically, we are crippling our ability to complete the mission. Many contingencies and "What ifs" must be explored. I've heard the expression, "We can what if this to death!" If we don't plan for the "What ifs," they may kill us. ❐

CW3 Dameron was assigned to Q Troop, 4th Squadron, 2d Armored Cavalry Regiment, Saudi Arabia, when he wrote this article.

The 986th Medical Detachment (Air Ambulance), West Virginia Army National Guard, loads a MEDEVAC UH-1/V onto an Air Force C-5A Galaxy aircraft in May 1991.

OPERATIONS IN THE DESERT: A POSTSCRIPT

CW2 Victor E. Carlin
New Mexico ARNG
Albuquerque, NM

Place: King Khalid Military City (Northern Saudi Arabia)

Unit: 812th Medical Company, Helicopter Ambulance, NM and LA Army National Guard, deployed to Southwest Asia.

Mission: Provide helicopter medical evacuation support to coalition forces in Operation Desert Storm.

Background

The 717th Medical Detachment, Helicopter Ambulance, NM Army National Guard (ARNG), existing since 1975, was deactivated in September 1990.

The author's unit, the 812th Medical Company, Helicopter Ambulance, was created in October 1990 by combining elements of the former 717th Medical Detachment, Helicopter Ambulance, NM ARNG; 812th Medical Detachment, LA ARNG; and personnel from other LA guard units.

The 812th was mobilized 21 November 1990 to support Operation Desert Shield.

This article is a follow-on to "Operations in the Desert, We Fought (And Died) The Way We Trained," which was published in the January/February 1991 issue of the Aviation Digest.

On 12 February 1991, the author's unit went to Saudi Arabia where he served as a medical evacuation (MEDEVAC) pilot for 3 1/2 months.

The 812th's MEDEVAC Experience

The unit field sited with an aircraft and crew at Log Base "C," 115 nautical miles northwest of King Khalid Military City (KKMC) in North Central Saudi Arabia near the Iraqi border in late February 1991. Field siting meant relocating closer to expected casualties.

At first, the 812th flew wounded Iraqi prisoners of war from forward hospitals to evacuation hospitals closer to KKMC.

Then the unit picked up civilians

and American soldiers injured from mines or unexploded cluster bombs. After that, the unit picked up the numerous military and civilian victims of motor vehicle accidents. Deaths from motor vehicle accidents may have outnumbered deaths from combat for U.S. servicemen in Desert Storm.

From 28 February through 20 May 1991, the unit flew about 75 MEDEVAC missions, as well as training and support missions.

The unit transported about 100 patients from locations in Southern Iraq, Kuwait, and Northern Saudi Arabia, to the Army Combat Support Hospital in Kuwait and to evacuation hospitals at KKMC.

The 100-hour ground war was over 28 February 1991, but MEDEVAC work was just beginning. Outside KKMC, a military bus carrying a large group of Egyptian soldiers was broadsided by a large truck.

The results were predictable: the "first-up" MEDEVAC helicopter and crew from the 812th immediately took off and flew to the accident scene.

Dead and severely injured soldiers were lying in and around the wrecked bus. The helicopter flight medic immediately began triage and, at the same time, stabilized and directed the loading of three critical patients.

The medic helicopter flew the first patients to one of the Army evacuation hospitals at KKMC. The crew radioed "Dustoff" Control for more helicopters and MEDEVAC crews. Before the afternoon was over, the unit had three helicopters and three MEDEVAC crews transporting injured soldiers to KKMC hospitals.

From mid-March through April 1991, the 812th had a detachment of at least two MEDEVAC helicopters in Kuwait located at what was left of the Kuwait International Airport. While there, unit helicopters picked up patients in Southern Iraq and Kuwait.

Mines left by the Iraqis and unexploded cluster bombs from coalition air forces caused most injuries. During that period, crews flew to Faylaka and Bubiyan Islands in the Persian Gulf to support U.S. Army explosive ordnance disposal teams.

On 11 April 1991, a written "armistice" was signed. Shortly thereafter, coalition forces began to pull out of Southern Iraq.

However, the civil war in Northern and Southern Iraq changed the time for withdrawing coalition forces from Southern Iraq, Kuwait, and Saudi Arabia. The continued redeployment to Germany slowed down, but did not stop.

Meanwhile, the 812th remained on MEDEVAC duty at KKMC until 20 May, the day the last U.S. field hospital in the area closed.

On 27 May 1991, unit personnel boarded C-5 Galaxy aircraft to return home. The New Mexico detachment of the 812th arrived back in Santa Fe, NM, 1 June.

Lessons Learned

Night flight over and in the desert would have been next to impossible without night vision devices. Navigation in the desert, day or night, would have been impossible without the global positioning system or long-range navigation, both for air and ground units.

Similarly, flying over and landing in the desert, especially at night, could not have been done safely without radar altimeters. Even then, because of a lack of contrast, night landings in the desert were often, in effect, "cockpit" ground controlled approaches ending with a controlled "crash."

A mosque on Faylaka Island, Kuwait, in April 1991, becomes a backdrop for this MEDEVAC helicopter and abandoned-Iraqi armored personnel carrier.

The north shore of Kuwait City looks bleak in April 1991.

CONPLAN BUGLE:

2-6 Cavalry's Feint At The Wadi Al Batin

Captain Chandler C. Sherrell
Commander, C Troop
2d Squadron
6th Cavalry Regiment
11th Aviation Brigade
Illesheim, Germany

In the weeks leading up to combat operations in the Persian Gulf, much attention was focused upon the vast military might possessed by the Iraqi Army. Having achieved such a quick and decisive defeat of their forces, we now find ourselves marveling at the relative ease with which success was attained.

Let there be no mistake, the destruction of the world's fourth largest army was achieved not only through advantages in military hardware but, more importantly, through countless daring and innovative operations executed by the finest soldiers our Army has ever seen.

This is one such account.

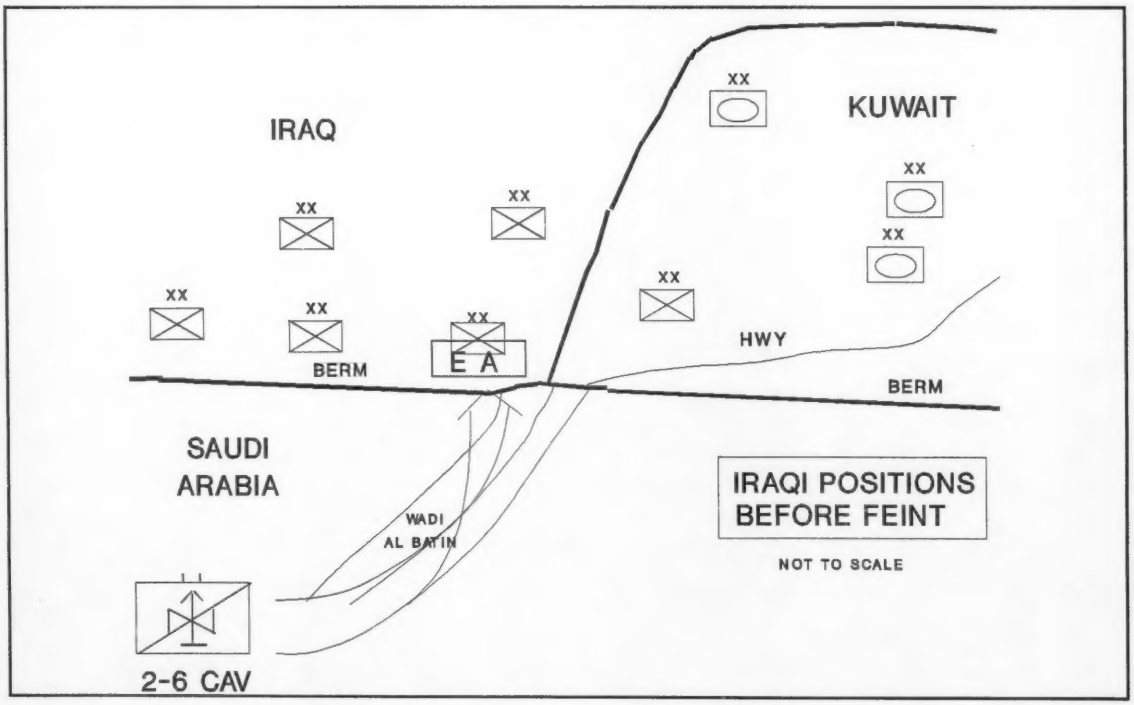


Figure 1. The intent of CONPLAN BUGLE's massive display of firepower was to conceal the time and place of the main coalition ground attack and cause the Iraqi tactical reserve forces to commit to the Tri-border area, thereby leaving the western flank lightly defended.

Preparation for the Feint

One hundred feet above the sands of Saudi Arabia on a moonless night, 18 AH-64 Apaches of the 2d Squadron, 6th Cavalry Regiment (2-6th), 11th Aviation Brigade, swept into Iraq . This was the first squadron-level attack by the U.S. Army's VII Corps.

Only 6 weeks before, aircrews began desert training to defend Saudi Arabia and prepare for possible offensive operations into Iraqi-held territory.

The air campaign was reducing the likelihood of a massive armored attack into Saudi Arabia. With this continued success, greater focus was placed on planning Army Aviation's first squadron-level combat mission.

All assets required in the execution of a deep attack were synchronized. The overall U.S. Army Central Command deception plan to conceal the main allied attack in the west began to unfold.

As this occurred, VII Corps staff and the 11th Aviation Brigade Deep Operations Planning Cell quickly developed a concept plan (CONPLAN) that would be the driving force for this deception effort.

AH-64s continued to slice through the early morning darkness, stripping the Iraqi 25th Infantry Division of their forward deployed defenses.

Without a doubt, the firepower and precision of the 2d Squadron, 6th Cavalry Regiment, feint fooled the Iraqi army.

CONPLAN BUGLE

CONPLAN BUGLE, as it was later named, would employ AH-64 helicopters of the 2-6th, 11th Aviation Brigade, and elements of the 1st Cavalry Division Artillery against elements of the Iraqi 25th Infantry Division (ID) deployed near the Wadi Al Batin.

The intent of this massive display of firepower was to conceal the time and place of the main coalition ground attack and cause the commitment of the Iraqi tactical reserve forces to the Tri-border area, thereby leaving the western flank lightly defended.

This classic feint operation would not only fool the Iraqi forces, but also allow for the synchronization and execution of all corps, echelon above corps, and air force assets required for a cross-forward line of own troops (FLOT) deep attack. This was something that had never been done before in combat.

Immediately after the inception of CONPLAN BUGLE, around-the-clock planning began. Priority intelligence requirements were identified.

A detailed synchronization matrix was developed to ensure all supporting fires and intelligence assets were fully integrated into the operation (see figure 2).

At H-hour minus 72 hours, all initial planning and coordination would peak. Details of the fire support plan were confirmed, air routes double checked, and all collection and fires targets developed.

Time seemed to stand still as all agencies reported affirmative to the support planned for the early morning hours of 16 February 1991.

The UH-60A gave communications capability to the Apaches at night as they entered into the FEINT.

CONPLAN BUGLE was on track.

At the maneuver level, the 2-6th continued to fine-tune desert night flying techniques; test aircraft survivability equipment; and practice HELLFIRE missile and 30-millimeter (mm) cannon engagements.

The unit did this while it further refined a detailed map study of the target area.

Simultaneously, 1st Cavalry Division Artillery planned and rehearsed its destruction of enemy air defense (DEAD) and suppression of enemy air defense (SEAD) missions as each unit exchanged plans and established liaisons.

At H-24 hours, a final check of the VII Corps Deep Operations Cell was made. GUARDRAIL aircraft from the 2d Aerial Exploitation Battalion would provide an ultra high frequency communications downlink.

Satellite communications would link the corps cell with the 11th Aviation Brigade Command and Control UH-60 Black Hawk.

In addition, 2-6th Cavalry would have a ground liaison officer and communications capability at the 1st Cavalry Division Artillery headquarters. Intelligence systems reports were checked.

Joint surveillance target acquisition radar system and a recent unmanned aerial vehicle flight reported no significant tactical situation changes.

The 2-6th deployed to a forward assembly area 60 kilometers (kms) from the Iraqi border as the 1st Cavalry Division Artillery moved into position and began their DEAD mission.

The Feint Continues

At H-5 hours, the Corps Deep Attack Execution Cell was fully operational. The 11th Aviation Brigade commander, Colonel Johnnie B. Hitt, would control the operation as the VII Corps commander. Lieutenant General Frederick Franks gave the final OK.

U.S. Air Force RC-135 Rivet Joint and U.S. Army OV-1D Mohawk Quicklook and SLAR aircraft continued electronic surveillance of the target area. The EC-130 Compass Call, AC-130 gunships, F-111 Ravens, F-4G Wild Weasels, and A-10 Warthogs were on strip alert for immediate suppression as the countdown continued.

At 0036, 16 February 1991, the first of 19 aircraft of the 2-6th pulled pitch and prepared to provide VII Corp's first combat punch of the war.

Flying with no aircraft lighting on a zero illumination morning, the 19-ship formation assumed a flight profile of 100 feet and 100 knots as they prepared to penetrate Iraqi defenses for the first time on such a large scale.

The feint... something never done before in combat.

Five minutes from the line of departure (LD), the night sky became ablaze as three multiple-launch rocket system batteries and two 155mm self-propelled battalions of the 1st Cavalry Division Artillery initiated a SEAD. Ninety seconds from the designated LD and poised for battle, the artillery barrage lifted precisely as planned.

H-HOUR	-72	-68	-64	-60	-56	-54	-50	-46	-42	-40	-38	-37	-36
LIGHT DATA							▲						
ENEMY													
MANEUVER	▲	VALIDATE CONPLAN/ISSUE EXECUTION FRAGO											
FIRES	▲	DEVELOP FIRE SPT PLAN						▲	TACFIRE INTERFACE/OH-58D				
ARTY/MLRS								▲	PASSAGE OF LINES MTG				
ATACMS													
AH-64	▲	DEVELOP ROUTES/EA'S/PIR'S/IR'S						▲	PSG OF LN MTG/A2C2/BDE OPOR				
AC-130	▲	DEVELOP AC-130 TGTS						▲	REQ AC-130				
BAI	▲	DEVELOP BAI TGTS						▲	REQ BAI				
CAS	▲	DEVELOP CAS TGTS						▲	REQ CAS				
EW	▲	DEVELOP EW PLAN						▲	REQUEST EW PACKAGE				
RAVEN	▲	TGT DEVELOPMENT						▲	SUBMIT REQ				
WILD WEASEL	▲	TGT DEVELOPMENT						▲	SUBMIT REQ				
COMPASS CALL	▲	FREQ DEVELOPMENT						▲	SUBMIT REQ				
INTELLIGENCE	▲	DEVELOP COLLECT PLAN						▲	REQ TENCAP				
SLAR								▲	REQ TRACKS				
JSTARS								▲	REQ MSN SUPT				
QUICKLOOK								▲	REQ TRACKS				
IGRV								▲	REQ TRACKS				
LRSU	▲	VALIDATE LOCATION						▲	REQ MSN SUPT				
TR-1								▲	REQ MSN SUPT				
DRONES	▲	REQ MSN SUPT FOR H-24						▲	REQ MSN SUPT FOR H-2				
RIVET JOINT													

Figure 2. This detailed synchronization matrix ensured full integration of all supporting fires and intelligence assets into the CONPLAN BUGLE operation. This classic feint operation would not only fool the Iraqi forces, but also allow for the synchronization and execution of all corps, echelon above corps, and air force assets required for a cross-FLOT deep attack, something that had never been done in combat.

With updated present positions using the global positioning system at 0100 16 February 1991, the squadron's lead aircraft crossed the LD and approached the berm (a mound of earth) separating coalition and enemy forces.

As long-range reconnaissance and surveillance units engaged in psychological operations along the berm and with M2 Bradleys poised to assist in recovering downed pilots, the squadron deployed along a 15 km front.

Because of a lack of cover and concealment provided by the desert terrain, aircrews assumed lower flight envelopes while maintaining mutually supporting fires with their designated wingman.

Eight kms from the security zone, the entire squadron was poised with weapons systems oriented on primary and secondary targets.

Moving still further into the 25th's defensive zone, HELLFIRE missiles, 2.75-inch rockets, and 30mm cannons began to rain down on Iraqi armored vehicles, bunkers, communication towers, and associated buildings and troops in the open.

Bewildered by the speed and firepower employed by the Fighting Sixth, enemy soldiers sought cover, unable to return fire against an unseen enemy. For 30 minutes, 18 AH-64s continued to slice through the early morning darkness, stripping the 25th ID of their forward-deployed defenses.

At 0150, all 18 AH-64s of the 2-6th egressed to friendly lines as the 1st Cavalry's Division Artillery fired a final DEAD to cover the disengagement.

On the desert floor the Iraqi defensive belt had been tested and forced into the security zone neutralized.

For the first time, 18 AH-64 Apaches had been employed in combat and all had returned to fight still further battles in the liberation of Kuwait.

Closing

Without a doubt, the firepower and precision of the 2-6th feint fooled the Iraqi army as to the main coalition effort. The 2-6th continued to reinforce the Tri-border area with tactical reserves, helping pave the way for the successful encirclement of the Iraqi Army from the west.

Lessons Learned

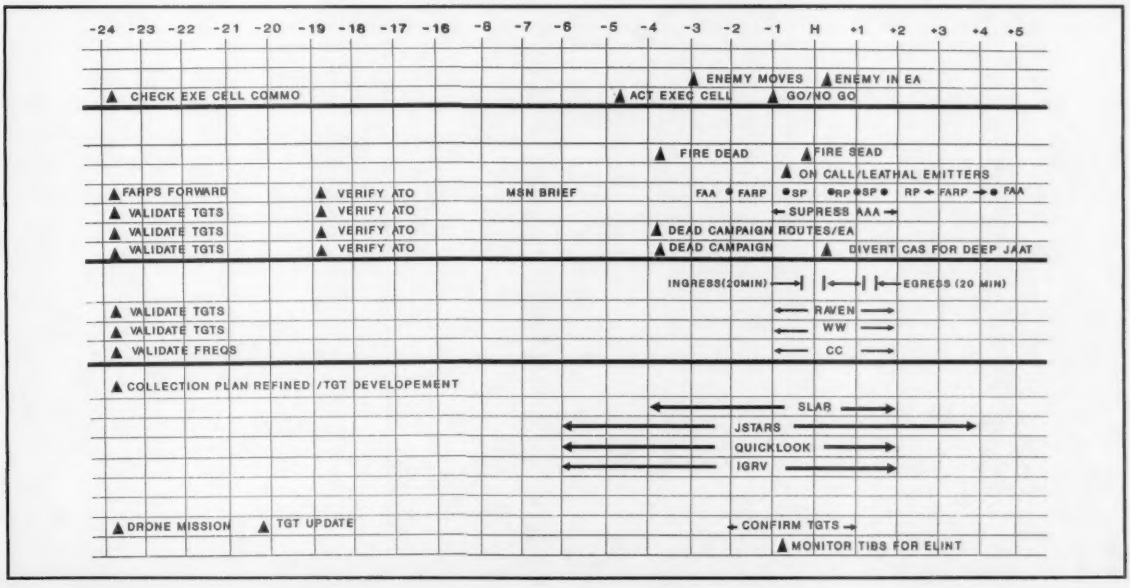
The first VII Corps attack of Desert Storm was successful not only for the destruction of elements of the 25th ID, but also for these reasons:

. Deep attack doctrine and synchronization at the Corps level works.

. Aviation tactics that would be employed by other AH-64 units later in the war were proven early.

. Aviation and field artillery assets were synchronized to support a deep attack feint with precise accuracy, demonstrating such a mission could be done under the stresses of combat.

. On a larger scale, the AH-64 was proven to be combat effective and lingering doubts were erased about the availability of the aircraft, both in combat and in a desert environment.



Hurricane Andrew — A Most Devastating Disaster

Army Aviation Assists in the Rescue Operation

Captain William C. Latham
G3, Aviation Force Modernization
HQ XVIII Airborne Corps
Fort Bragg, NC

Shortly after Hurricane Andrew devastated South Miami, FL, and its surrounding area on 24 August 1992, the blue sky over these communities filled with a new sound—Army helicopters.

The XVIII Airborne (Abn) Corps, Fort Bragg, NC, sent 15,000 soldiers and more than 100 helicopters to speed relief and recovery efforts to hurricane victims in the area.

Since the first units arrived in South Miami 27 August, Army helicopters have flown over 3,000 hours, hauled more than 2 million pounds of supplies, and moved more than 2,000 passengers to support Joint Task Force Andrew operations.

"Army Aviation was the best way to move things around, particularly during the early going when roads were clogged and blocked by downed power lines and telephone poles," said Lieutenant General (LTG) Gary E. Luck, commanding general (CG), XVIII Abn Corps, and commander of all Army forces during the operation. "Our helicopters provided the best way to move critical items and

An UH-60 Black Hawk performs a slingload to help victims of Hurricane Andrew with food and supplies.

The force of the hurricane destroyed anything in its path.

key leaders to the right place at the right time."

XVIII Abn Corps soldiers worked steadily to clear roads, set up relief sites, and re-establish the flow of traffic in damaged areas.

As they worked, aircraft and crews poured into South Florida from the 10th Mountain Divison (Div), Fort Drum, NY; the 82d Abn Div, the 44th Medical Brigade (Bde), and the 18th Aviation (Avn) Bde, Fort Bragg, NC; and the 101st Abn Div (Air Assault), Fort Campbell, KY. National Guard, Navy, and Marine Corps helicopters also contributed significantly in the relief efforts.

The 18th Avn Bde, with 70 of its own helicopters and 15 CH-47D Chinooks attached from the 7-101st Avn Battalion (Bn), led the way in providing aviation support during the operation. The XVIII Abn Corps received the initial mission from the U.S. Army Forces Command, Fort McPherson, GA, to assist in relief efforts.

On receipt of the mission, the brigade deployed a battalion-size task force of UH-1H Huey and CH-47D aircraft to the area. However, by the second day of the operation, Corps deputy CG, Major General Edison E. Scholes, decided the mission required more than this handful of helicopters. He told brigade commander Colonel (COL) Tom Green to put a brigade-size team on the road to South Florida.

The brigade's 159th Avn Group arrived in strength on 29 August, setting up its headquarters at Opa Locka Airfield in Miami under the command of COL E. E. "Butch" Whitehead. By 31 August, a second task force of OH-58s Kiowas and UH-60 Black Hawks had set up operations at Tamiami Airfield under 229th Attack Regiment commander COL Thomas Swindell.

Ironically, the Corps' Vietnam era UH-1H and OH-58 helicopters performed the lion's share of the work. These smaller aircraft stayed busy conducting aerial reconnaissance, command and control (C2), and resupply missions between the various unit command posts throughout the damaged area.

SFC Yolonda Mallory, operations NCO, Aviation Force Modernization, Fort Bragg, NC, accompanied the U-21 Ute of the HQ XVIII Airborne Corps that helped in the Hurricane Andrew rescue mission.

A hurricane is a tropical cyclone with winds of 74 mph or more, accompanied with rain, thunder, lightning, and loud noise. Hurricane Andrew was a perfect definition.

It killed people, destroyed property, paralized utilities, contaminated water, uprooted trees, and crushed buildings like child's play.

The beautiful became the ugly, the picturesque became the rubble.

However, with the care and concern of others, neighbors began to help neighbors, people gave more than they received, and the real meaning of life was put in prospective.

Lives mended, families reunited, and neighborly love became the daily password.

There are some things that not even a hurricane can destroy.

Their small size and relatively inexpensive maintenance costs made them perfect for many of the short-haul missions required for this operation. The brigade's powerful UH-60 Black Hawk and CH-47 helicopters, on the other hand, almost flew themselves out of a job. In several instances, CH-47Ds executed slingload operations so quickly they were able to deliver supplies to landing zones faster than relief workers could clear them out of the drop-off area.

"We did not expect to see as many aircraft as we saw; we didn't expect them to fly as many missions as they flew; and we didn't expect the crews to show the dedication they showed in helping in the relief efforts," stated Mr. Thomas Van Hare, director of Hurricane Andrew relief efforts for World Vision, a private, nonprofit organization that assisted in the operation.

"Without the Army there to provide some stability to the situation, this could easily have turned from America's largest natural disaster into America's worst national tragedy, he said.

The XVIII Abn Corps' rapid response to this emergency won new fans for the Army and its multifaceted capabilities. The principles of contingency operations that made the Corps successful in Operations Desert Shield and Desert Storm contributed greatly to its ability to respond quickly and effectively once it received this mission.

"Our aviation crews did themselves proud," stated LTG Luck. "Because of their high state of training, they were able to provide us with mobility, C2, and medical evacuation, and they were able to do it around the clock."

As in Southwest Asia, Army Aviation's ability to "get there 'fustest' with the 'mostest'" proved its value as a critical player on the battlefield. The same flexibility required to win the wars of tomorrow proved just as necessary to winning the peace today.

Can you find the Hercules? A Lockheed C-130 is buried amid the rubble of a collapsed hangar at Homestead AFB, FL, after being caught in the fury of Hurricane Andrew. The Hercules was at Homestead for maintenance and, therefore, could not be flown to safety before the storm.

U.S. Army Aviators Support Dismounted Battle Labs

Ms. Elaine McGee
Public Affairs Office
U.S. Army Reserve Command
Fort McPherson, GA

Aviation support for the U.S. Army's Dismounted Battle Lab at Fort Benning, GA, is truly a Total Force effort. U.S. Army Reserve (USAR) aviators stationed at Fort Benning are working side by side with their active duty military and civilian counterparts to design and test concepts for the battlefield of the future.

Company A, 6-159th Aviation Assault Battalion (Bn), stationed at Fort Benning, has a fleet of 10 UH-60 Black Hawk helicopters. These aircraft are piloted by highly skilled USAR aviators to conduct and evaluate aviation battle lab tests for the Army of the next century.

The unit, part of the 121st U.S. Army Reserve Command's 33d Aviation Group, Fort Rucker, AL, is the largest aviation asset on Fort Benning. Pilots from the 6-159th support training missions for units stationed at Fort Benning, including the Army's Infantry School and Ranger School. Recently, the unit was selected to support a test involving night vision devices (NVDs) and laser targeting for the installation's dismounted battle lab.

"The Directorate of Training (DOT) came to us in October 1992 and asked if we could fly the mission for this test," explained flight instructor Chief Warrant Officer (CW3) Casey D. Noble. CW3 Noble was one of two Reservists chosen to pilot the UH-60s used in conducting the test. "Normally, the DOT supports these types of missions, but they had no flight time available to handle the mission. We had flight hours, and were only too happy to pick up the mission," he added.

According to Mr. Charlie Thornton, project officer for the dismounted battle lab, the Reserve aviators were testing the latest technology developed to improve night battlefield conditions. "The pilots were testing new laser pointers used to designate landing zones and hand off targets," said Mr. Thornton. "Their input from the tests will help us determine what technology works best from the aviator's point of view."

The test, conducted in October, teamed the Reserve pilots with infantry soldiers who were on the ground, using laser pointers and chemical lights to mark landing zones. The pilots were equipped with aviator's night vision imaging system (ANVIS)-6 goggles, which gave them a night acuity vision of 20/40, optimizing their sight in the cover of darkness. As the soldiers on the ground marked the landing zones with different target designators, the pilots were in the air determining which target designators worked the best with their NVDs.

"We positioned the aircraft to determine how well we could see the landing zone from a typical approach pattern," said CW3 Doffis L. Dougherty, another of the 6-195th's pilots involved in the test.

Not only do CW3 Daugherty and CW3 Nobel drill on the weekends with the unit, but they also provide full-time manning support for the unit as Department of the Army civilian flight instructors during the week. They ensure the unit's high readiness state by assisting in the maintenance of the aircraft as well as evaluating and training other aviators assigned to company A.

Recently, CW3 Daugherty and CW3 Noble teamed up with fellow unit members CW4 Duane Coking and CW3 Steve Rohr to demonstrate the test for commander, U.S. Army Training and Doctrine Command, General Frederick M. Franks, Jr. General Franks instituted the battle lab concept to find ways to inject the latest in technology into the battlefield under reduced manpower and funding conditions. (Continued on back cover.) ❐

Crossword Puzzle

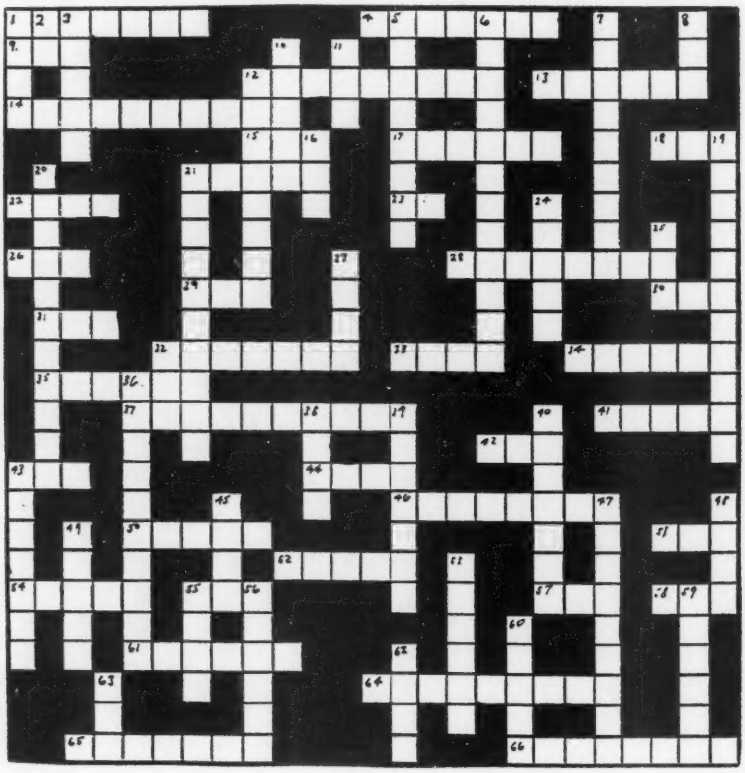
(HINT: Refer to DOD FLIP and other publications for help.)

There is such a demand for us to stay abreast of so many things in Army Aviation that the author developed this Army Aviation crossword puzzle as another method of reviewing Army Aviation subjects.

This crossword puzzle covers subjects asked on annual proficiency and readiness tests evaluations from Chapter 8, Section 2, Regulations and Publications, from your aircrew training manual.

The puzzle is designed to relate to Army aircraft in general.

For comments, phone the author, CW3 James T. Chandler, DSN 238-8917, Annville, PA.



Answers in the next *Aviation Digest*

Special Quiz for the Aviation Community

Army Aviation

DOWN

1. Variation which is added
2. Arrival time (abbr)
3. Condition requiring an alternate
5. Changing it would require a call to ATC
6. Localizer approach
7. Angular difference between magnetic and compass headings
8. Weather forecast must be for ETA + ___ hr
10. ___ control (normally contacted before entering an Army-controlled restricted area)
11. MUIR AAF has one (Hint: IFR)
12. Must have one for stopover or terminal area delay flight plans
16. Electronic countermeasures (abbr)
19. No military landing rights available
20. Controlled airspace, 5 sm radius with extensions for IAP
21. Small downburst with outbursts of damaging winds as high as 150 knots extending 2.5 miles or less
24 Width of victor airways (mi)
25. Glideslope antenna height above runway threshold
27. DH-HAT=___
32. ___ and avoid
36. Special use airspace with activities or sites concerning national security
38. Frequency used to announce air port advisories at uncontrolled airports
39. Symbol used to denote FAR/DOD integrated NOTAM system in VFR/IFR supplements
40. Type of approach that must be requested by pilot and ground visibility reported to be 1 sm
43. 360 extend from a VOR
45 Automatic weather observing system
47. MEA provides this in addition to NAVAID reception
48. Not mandatory, but highly recommended radar service area
49. Clear to land, (steady ___)
53. AGL (feet) of floor of outer circle of an area in hundreds
55. ATA, SM radius
56. Number of days for a valid 365-4
59. Weather advisory issued from conditions affecting all aircraft
60. FDC is one
62. Color that indicates a control tower on a VFR sectional
63. Special use airspace with activities necessitating acrobatics or aburpt flight maneuvers

ACROSS

1. Special use airspace 12 nm off our coast
4. Color used to indicate floor of controlled airspace (700 ft AGL)
9. Estimated time of arrival (abbr)
12. Used to convert from true to magnetic north
13. Not allowed to fly in KNOWN ___ turbulence
14. Area indicated by 4 across
15. Condition of improved performance when aircraft operates near ground
17. Distance in nm where 21 across is needed around a TCA
18. Last segment of instrument approach procedure
21. Equipment required in TCA or ARSA
22. Provides only obstruction clearance beyond 25 sm
23. Missed approach point on a precision approach
26. Three letter identifier for Williams B. Hartsfield Atlanta Int'l Airport
28. Lines of equal magnetic variation
29. Visibility required for SVFR at MUIR AAF
30. Height of decision height or minimum descent altitude above highest runway elevation in touchdown zone
31. Altitude for IFR route northeast bound
32. Altitude at which controlled airspace starts in controlled zones
33. Altitude for an IFR route northwest bound
34. IFR clearance that allows altitude changes from assigned altitude down to MEA/MOCA without notify ing ATC
35. Two quick clicks to acknowledge a transmission
37. Special use airspace that has invisible hazards to flight, such as artillery
41. Standard rate turn, ___ degrees/ second
42. Number of minutes flown outbound when using a 20-degree teardrop turn.
43. Steady ___ on the ground means stop (light gun signal)
44. Radar service area requiring ATC contact
46. VOR compass rose is oriented to ___ north
50. Color used to indicate no IAP for airports on IFR charts
51. Precision approach
52. Ceiling requirement for 29 across (in hundreds)
54. Special use airspace with high density of student pilot training
55. Federal stock number (abbr)
57. Controlled airspace requiring 21 ACROSS
58. Altitude you must go to while on radar vectors for an approach if you are below it and experience lost communications
61. Activity that restricts flying duties for 24 hours
64. Maximum ___ figure
65. Unmarked VOR change-over point
66. Maximum icing condition if so equipped

Part 1 of 2

Cargo Helicopters in the Korean Conflict

Dr. John W. Kitchens
Aviation Branch
Command Historian
U.S. Army Aviation Center
Fort Rucker, AL

When the Korean Conflict began 24 June 1950, the Army had only 56 helicopters in its inventory. All of these were then called utility aircraft—52 Bell H-13B Sioux and four older models Bell YH-13A.

When fighting ended in July 1953, the Army had an inventory of more than 800 helicopters: 460 H-13s, 405 of which were the newest E model; 262 Hiller H-23 Ravens, mostly the improved B model; 72 Sikorsky H-19C Chickasaw cargo helicopters; and 13 Piasecki H-25A Army Mule cargo helicopters.

About two-thirds of these aircraft were acquired during the last year of the conflict. Fewer than 200 reached Korea before the war ended. The Army received its first Piasecki (Vertol) H-21C Seminole in September 1954—over a year after the conflict ended.[1]

Men of Company "I," 27th Infantry Regiment, 25th U.S. Infantry Division, take to the hills during a command post exercise of helicopter lift training in Korea. An H-19 Chickasaw cargo helicopter flys by in the background.

The U.S. Air Force was still determined to stop the growth of Army Aviation, even throughout the Korean Conflict.

Names such as Devers, Gavin, Collins, and Pace are remembered for addressing the continuing question: Who gets the best missions, Army or Air Force?

Plans and Missions

The Army completed plans to organize and train five transportation helicopter companies within 6 weeks of the beginning of hostilities. Because of the shortage of cargo helicopters and U.S. Air Force (USAF) opposition to any expansion of Army Aviation, the first of these companies did not become operational in Korea until March 1953, about 4 months before the end of the war.

Since the birth of Army Aviation in 1942, the Army Ground Forces-Army had attempted repeatedly to expand its air arm and escape restrictions and controls placed upon it. Conversely, the Army Air Forces-USAF had repeatedly tried to eliminate or absorb the ground forces' air arm, perceived as a rival for scarce resources. Failing to achieve that objective, the USAF was determined to prevent Army Aviation from expanding its mission.

In mid-1950, the mission of Army aircraft was controlled by the terms of three major documents—the National Security Act of 1947, which had created the USAF; the Key West Agreement of 1948; and the Joint Army Air Force (JAAF) Adjustment Regulations 5-10-1 of 1949.

These documents restricted the missions of Army aircraft to observation, reconnaissance, local messenger and courier service, and emergency wire laying and evacuation. They also limited aerial resupply and photographic missions.

Other aerial functions, including nonemergency courier, messenger, evacuation, supply, photography, and wire laying were assigned to the USAF. The USAF also controlled procurement, research and development (R&D), and much of the training and maintenance for Army Aviation. Furthermore, the weight of Army helicopters would not exceed 4,000 pounds when empty.

During the early years of the Cold War, the USAF neglected the Army's requirements for R&D on helicopters and other light aircraft.

The low priority given to the aircraft and air support needs of the ground forces caused some Army leaders to attempt to have the Army assume greater responsibility for its own aircraft development, procurement, and air support. The Army's efforts to procure and employ light cargo helicopters during the Korean War era made up one more chapter in the continuing rivalry between the two services.

Genesis of the Army's Cargo Helicopter Program

Since the end of World War II, General (GEN) Jacob L. Devers, Lieutenant General (LTG) James M. Gavin, and several other Army leaders had urged the USAF to develop and procure cargo helicopters to provide aerial support to the Army. Little development and even less procurement had occurred.

The genesis of the Army's own cargo helicopter program in November 1949 required large helicopters to transport personnel, cargo, and equipment.

Notwithstanding the restrictions on the size and functions of Army aircraft, an Army Field Forces Board No. 1 study report, dated 16 November 1949, stated the Army had required five types of helicopters. Three of these, one 8,000-pound cargo and two flying crane types, were larger than the maximum size permitted by the JAAF Adjustment Regulations of 1949.[2]

The G-3 Plans Division began to explore the possibilities of Army cargo helicopters shortly after the release of the November 1949 report. A report of 10 May 1950, prepared by Lieutenant Colonel (LTC) Charles W. Matheny of the Army War Plans Branch of the Plans Division, recommended the Army organize and equip five transport helicopter companies.

The report urged the project be funded in fiscal year (FY) 1952 and suggested these companies be used to develop doctrine to employ cargo helicopters in the Army.[3]

The outbreak of the Korean Conflict caused the plan to begin earlier than first recommended. On 9 August 1950, the Department of the Army directed the Army Field Forces to organize and train four helicopter

LTG James A. Van Fleet, left, commanding general of the 8th U.S. Army, Korea (EUSAK), discusses aerial reconnaissance and flight plans with LTC J. Elmore Swenson, Army Aviation Officer, Headquarters, EUSAK, at the K-37 airstrip, Taegu, Korea.

President-elect Dwight D. Eisenhower dines with the 3d Division troops south of Ch'orwon, Korea, in December 1952.

companies equipped with H-19 helicopters.

A fifth helicopter transport company, to be equipped with Piasecki H-21 helicopters, was planned for the latter part of FY 1951. Orders for procurement were placed with the USAF in late August and September 1950. Five additional companies were planned shortly afterwards.[4]

The Sikorsky H-19 Chickasaw became the standard cargo helicopter around which most early Army plans evolved. The 600-horsepower H-19C could transport 10 troops and had a gross weight of 7,500 pounds. The 4,795-pound empty weight of the H-19, however, was well above the 4,000-pound maximum allowed the Army by the JAAF Regulations of 1949.

The excess weight, combined with the obvious intent of Army planners to expand the mission of Army Aviation, worsened rivalry between the Army and USAF.

The Transportation Helicopter Company Tables of Organization and Equipment (TO&E) 55-57, completed in October 1950, called for two utility helicopters besides the 21 light cargo helicopters; company personnel of seven commissioned officers and 28 warrant officers, all rated helicopter pilots; and enlisted personnel for organizational maintenance, mess, and administrative services.

The company was to be divided into three platoons, each consisting of one lieutenant and nine warrant officers. Organizational maintenance was to be performed by the company, field maintenance by the Ordnance Corps, and depot maintenance by the USAF.[5]

The TO&E was revised in July 1951 and again in August 1952 when a company maintenance detachment was authorized.[6]

According to the TO&E, the mission of the transportation company was "to provide short-haul air transport to expedite tactical operations and logistical support in the forward areas of combat zone." It further stipulated the mission as "both logistical and tactical."[7]

Intended missions of Army cargo helicopters included what later came to be called airmobility and air assault, as well as aerial supply. For example, helicopter units were designed to perform the specific mission of transporting an infantry rifle company, less vehicles, in one airlift. For this purpose, the helicopter company consisted of 21 cargo helicopters.[8]

The 1949 JAAF Adjustment Regulations specifically assigned the aerial supply mission to the USAF. Al-

though these regulations did not mention the aerial transport of troops into battle, this mission had been assigned to the USAF by the Key West Agreement. Also, USAF leaders apparently expected the weight limitations on Army aircraft, prescribed by the 1949 regulations, would preclude the Army's exercise of this mission.

Procurement Problems

In memoranda dated 8 September and 20 November 1950, GEN Lawton Collins, chief of staff of the Army, requested the USAF concur in deleting the weight limitations on Army aircraft. The chief of staff of the USAF, GEN Hoyt S. Vandenberg.

GEN Vandenberg proposed instead that the USAF create helicopter assault squadrons to transport Army troops into battle. In the meantime, Congress approved funds for the Army to buy H-19 and Piasecki H-21 cargo helicopters. The funds were transferred to the USAF for procurement, but the USAF refused to let the contracts for the aircraft.[9]

Meanwhile, the USAF began planning its own assault helicopter squadrons to support the Army.[10]

The Army proceeded developing several plans for transportation helicopter fleets of various sizes. One tentative plan was for "a total requirement of 20,000 [helicopters], of which 10,600 were to be financed in 1951 and 1952."[11]

The Chief of the Transportation Corps proposed 3,000 cargo helicopters be acquired within 3 years.[12]

According to another plan, one helicopter company would be required for each division and one helicopter battalion for each corps.

In response to USAF objections to various ambitious Army cargo helicopter plans, the secretary of the Army ordered the development of a reconsidered Army program. The Materiel Requirements Review Panel consequently developed a procurement program calling for enough helicopters to equip 15 cargo helicopter battalions.

The Army chief of staff scaled down the recommendations of the review panel, recommending 12 battalions of 67 helicopters each. Under this plan, which was formally finalized early in 1953, actual procurement was to extend through fiscal year 1959.[13]

In 1951 and early 1952, however, the immediate Army objective for cargo helicopters was to acquire enough to equip 5 or 10 companies with 21 aircraft each. As of November 1951, 97 H-19s and 85 H-21s were scheduled for purchase with 1951 and 1952 funds, and 80 H-19s with 1953 funds.[14]

Even this modest requirement proved to be a problem—partly perhaps because of the suspicions fostered by the more ambitious plans being considered, but also because most USAF leaders were opposed adamantly to any expansion of the Army Aviation mission. The chiefs of staff and the secretaries of the Army and USAF met on 18 February 1951 to discuss the Army's helicopter requirements and existing weight limitations. The USAF expressed alarm about the projected Army helicopter fleet of 20,000 aircraft.

USAF leaders professed to be especially concerned about costs, production capability of the industry, and USAF responsibility for providing air cover for so many Army aircraft.

Army leaders professed to have no knowledge of the figures cited by the USAF, but agreed to reconsider the Army's various estimates of its requirements. In return, USAF leaders agreed to purchase and allocate to the Army, "on an experimental basis," the 72 H-19s and 33 H-21s the Army had requisitioned.

Army and USAF leaders agreed that 110 cargo helicopters were to be allocated without changing the weight limitations on Army aircraft. Any modification of those limitations would be determined through further negotiations—to take place after the Army completed experiments with cargo helicopters and decided on the number of helicopters actually required.[15]

CPT Gaddis at the controls of his helicopter prepares to take off from the 32d Collecting Station, 7th U.S. Infantry Division, Korea, around 1952.

In August 1951, however, the acting secretary of the USAF notified the secretary of the Army that the procurement action had been delayed. The USAF restudied the entire Army Aviation program in light of its apparent violation of the "spirit and intent" of the National Security Act of 1947, the Key West Agreement, and the JAAF Adjustment Regulations 5-10-1.

The USAF spokesman contended the size and quantities of aircraft requisitioned by the Army could not be justified to perform the Army's "emergency" or "limited" responsibilities. However, this was true only for those missions for which primary responsibility had been assigned to the USAF. Both "aeromedical evacu-

GEN J. Lawton Collins straps himself inside an L-5.

ation and cargo supply," he observed, were primarily USAF functions.[16]

A couple of months later in the Army-USAF Memorandum of Understanding (MOU) of 1951, the USAF agreed to eliminate weight restrictions on Army aircraft. According to the MOU, the mission of Army Aviation was defined solely by function.

The authorized function for cargo helicopters was Army aircraft could transport "supplies, equipment, and small units within the combat zone." The combat zone was defined as normally not exceeding "50 to 75 miles in depth."

The 1951 MOU stipulated the USAF was "assigned the primary function of supplying the necessary airlift to the Army." Furthermore, the Army's plan to give the transportation helicopter companies an air assault-type mission was apparently squelched by a statement in the MOU that Army aircraft would not duplicate functions of the USAF in providing the Army with "assault transport and other troop carrier airlift."[17]

Even with the agreement signed, the Army was still unable to obtain any cargo helicopters. Some analysts attribute the problem partially to a lack of total commitment within Army leadership for the expenditures necessary for an expanded helicopter program.[18]

Also, there was undeniably a shortage of cargo helicopters during the Korean Conflict. Before the war, R&D had been neglected, and production languished. After hostilities began, the military services were competing for all helicopters industry could produce.

The Marine Corps had developed aerial supply and aerial assault doctrine before the Korean Conflict began. The Corps obtained new cargo helicopters during the early months of the war.

A Marine helicopter transport squadron, HMR-161, arrived in Korea 2 September 1951; it conducted its first helicopter logistical support mission in combat 11 days later. In Operation Summit on 20 September, the squadron carried out the first airborne assault by helicopters in the history of warfare.[19]

The Army was at a particular disadvantage in obtaining cargo helicopters because of its dependence on the USAF for procurement. The Army's problems in obtaining cargo helicopters unquestionably resulted in large measure from its rivalry with the USAF.

Having become alarmed by the plans within some Army circles to create a large helicopter fleet and to use it for aerial assault and transport purposes, the USAF was creating its own helicopter assault squadrons to eliminate any reason for the Army to do so. As helicopters became available, they were purchased by other services or by the USAF for its own use.

In January 1952, the vice chief of staff of the Army urged the USAF chief of staff to provide enough helicopters for the Army's planned transportation companies. He asserted these companies would not duplicate functions performed by the USAF. They would be operating only within the combat zone and performing functions normally performed by Army ambulances and truck companies.

He further observed there was no requirement then for USAF rotary-wing support of the Army within the combat zone, so some of the helicopters the USAF was acquiring could be turned over to the Army.[20]

The USAF vice chief of staff responded in February that, according to the 1951 MOU, the Army's use of helicopters was "secondary to the primary USAF function of supplying the Army with its required airlift."

Therefore, the USAF must prepare itself to provide logistical air support to the Army before allocating "identical critical equipment to the Army for use in performing a limited secondary function." The USAF vice chief of staff added that one H-19 had already been provided to the Army and another would be delivered within a month.[21]

During March 1952, both the vice chief of staff and the secretary of the USAF reiterated that the Army's aerial support role was secondary, while that of the USAF was primary. They also observed there was a severe shortage of cargo helicopters and that the next six H-19s completed had been earmarked for the Tactical Air Command (TAC). TAC would use them "to organize, train, and partially equip an assault unit."

The USAF, they added, was programming for both fixed- and rotary-wing assault groups to support the Army in the combat zone.[22]

Instead of responding to the USAF secretary and vice chief of staff, Army Secretary Frank Pace, Jr. called together a high-level group of Army military and civilian personnel on 25 June. They agreed at that meeting to—

. Compare the Army helicopter program with that of the Marine Corps and decide whether further expansion of the Army program for fiscal year 1954 was justified.

. Consider recommending to the secretary of defense (SECDEF) the creation of a single independent authority to resolve differences among the services involving helicopters.

. Analyze the Army procedure for helicopter R&D to determine whether some change, possibly including an agreement with the U.S. Navy, would be advisable.[23]

It appears at least some of the decisions made at the June meeting were acted on and USAF leaders became informed of them. Also, the Army chief of staff introduced the Army helicopter program and the USAF plans to organize assault squadrons in duplication of the Army units as a subject to consider at a meeting of the Joints Chiefs of Staff in September 1952.[24]

I suspect it is not entirely coincidental the Army received its first allocation of 21 H-19C cargo helicopters during this time (late summer of 1952). Another 50 H-19s were delivered before the end of the year.[25]

Secretary Pace addressed a long memorandum dated 3 October 1952 to SECDEF outlining the Army's requirements for cargo helicopters to transport supplies and personnel within the combat zone. He made the Army's use of transportation helicopters analogous to the earlier use of mules and trucks.

The Army secretary objected strongly to the USAF interpretation of the 1951 MOU and to the USAF's plans to provide air transportation within the combat zone to the Army.

The USAF, he argued, had not provided such services to the Army in the past. The advent of the helicopter had permitted the Army to organize three helicopter companies to partially replace earlier modes of transportation within the combat zone.

Instead of supplying required helicopters to the Army, the USAF had then proceeded to duplicate the Army's program by creating its own helicopter squadrons.

LTG James A. Van Fleet, commanding general of the 8th Army, Korea, sits in the helicopter while on an inspection tour of the 2d Division sector on the central front in Korea.

Secretary Pace also made a case for the concept the Army would later refer to as airmobility.

"A corollary tactical development," he wrote, "is the increased use of infiltration or vertical envelopment as a supplement to lateral envelopment. To perform or to counteract such operations, Army units must be able to operate independently and must have a mobility which ground transportation cannot provide."

Secretary Pace further contended it was just as essential for the ground commander to have command and control (C^2) over helicopters used in tactical and logistical operations in forward areas as it was for him to have C^2 over ground vehicles used for the same purposes.[26]

In compliance with a directive from the Joint Chiefs of Staff, a new MOU between the Army and the USAF was negotiated and signed on 4 November 1952. Although the aerial assault mission continued to be withheld, the memorandum was otherwise generally according to the recommendations of Secretary Pace.

The 1952 MOU redefined the combat zone to extend normally from 50 to 100 miles in depth. This MOU also clearly gave the Army authority to conduct aeromedical evacuation, but only to points within the combat zone.

More significantly for our purposes here, the 1952 MOU gave the Army exclusive authority for the "transportation of Army supplies, equipment, personnel, and small units within the combat zone." The USAF was prohibited from procuring aircraft for purposes that would duplicate combat area functions assigned to the Army.[27]

The USAF retained responsibility for air transport of troops and supplies in aerial assault and later phases of airborne operations. After the Army was prohibited from providing this service for itself, however, it seems the USAF discontinued development of the planned aerial assault squadrons.

(Story to be continued)

NOTES

1. This author's article on utility helicopters in the Korean Conflict was published in Army Aviation Magazine, June 1992. H-13 and H-23 were referred to as "utility" aircraft and H-19 and H-25, as "cargo" aircraft until designations changed respectively to "observation" and "utility" in 1954. This article uses earlier designations. Author took statistics from "Inventory of Army and National Guard Aircraft." See R. Earl McClendon, Army Aviation, 1947-1953 (Maxwell AFB, AL: Air University, 1954), p. 29. See Swanborough and Bowers, U.S. Military Aircraft Since 1908, pp. 64-65, 304-305, 447-48, 482-83, and 583.

2. Aircraft Service Test Section, Army Field Forces Board No. 1, 16 Nov 49, "Report of Study Project No. GA 249."

3. Joseph Bykofsky, The Support of Army Aviation, 1950-1954 (Washington: Office of Chief of Transportation, 1955), p. 16.

4. Ibid., p. 17. Study report, LTC C. W. Matheny, G-3/AWPB/56454, 8 Oct 50, copy in Aviation Branch Command Historian Office (ABCHO). Memo slip, COL Ralph C. Cooper to ACSA G-3, 21 Feb 51, ABCHO.

5. DA, "TC No. 19," 29 Dec 50.

6. "Army Helicopters Transport and Cargo: An Evaluation of 1950-1953 Experience as a Basis for Current and Future Programming," report prepared by Army chief of transportation, 1 Jan 54, no original pagination, referred to as "Army Helicopters."

7. "TC No. 19," loc. cit., 29 Dec 50. DOD PIO Press Release 1299-5, 20 Oct 50; and "Army Helicopters," p. 2.

8. "Army Helicopters," loc. cit.

9. "Williams Report," (Carlisle Barracks, PA, 1978), p. 3. "Army Helicopters," op. cit., p. 3. Richard P. Weinert, Jr., A History of Army Aviation, 1950-1962 (Ft. Monroe, VA: TRADOC, 1991), p. 17.

10. COL Delbert Bristol (ret), transcript of interview conducted by COL Ralph J. Powell and Ronald K. Anderson, 1978, p. 23.

11. Memo, John A. McCone, 16 Feb 51, subj: Liaison Aircraft Helicopters, ABCHO.

12. Bykofsky, op. cit., p. 21.

13. Ibid., pp. 25-29. "Army Helicopters," loc. cit. Weinert, op. cit., pp. 36-38.

14. Weinert, op. cit., p. 22.

15. Memo, McCone, loc. cit.

16. McCone and Frank Pace, Jr., Secretary of the Army, op. cit., 1 Aug 51, ABCHO.

17. Pace and Thomas K. Finletter, "MOU between Secretary of the Army and Secretary of the USAF," 2 Oct 51, ABCHO.

18. Bykofsky, op. cit., p. 21. Weinert, op. cit., pp. 21-22.

19. Keith B. McCutcheon, "Equitatus Caeli," Marine Corps Gazette (Feb 54), pp. 25-27. William A. Reavis, "The Transport Helicopter," Marine Corps Gazette (Jul 52), pp. 54-57.

20. Memo, GEN J.E. Hull for chief of staff of USAF, 8 Jan 52, subj: Requirements for Cargo-Type Helicopters, ABCHO.

21. Memo, GEN N.F. Twining to VCSA, 6 Feb 52, subj: Allocation of Transport Helicopters, ABCHO.

22. Twining, op. cit., 4 Mar 52, subj: Requirements for Cargo-Type Helicopters, ABCHO. Memo, Finletter and Pace, 25 Mar 52, ABCHO.

23. Memo, COL R. F. Carlson, 25 Jun 1952, subj: Army Rotary-Wing Aviation, ABCHO.

24. Memo, Roswell H. Gilpatric and Pace, 24 Sep 52, ABCHO. Weinert, op. cit., pp. 38-39.

25. "Inventory of Army and National Guard Aircraft," loc. cit.

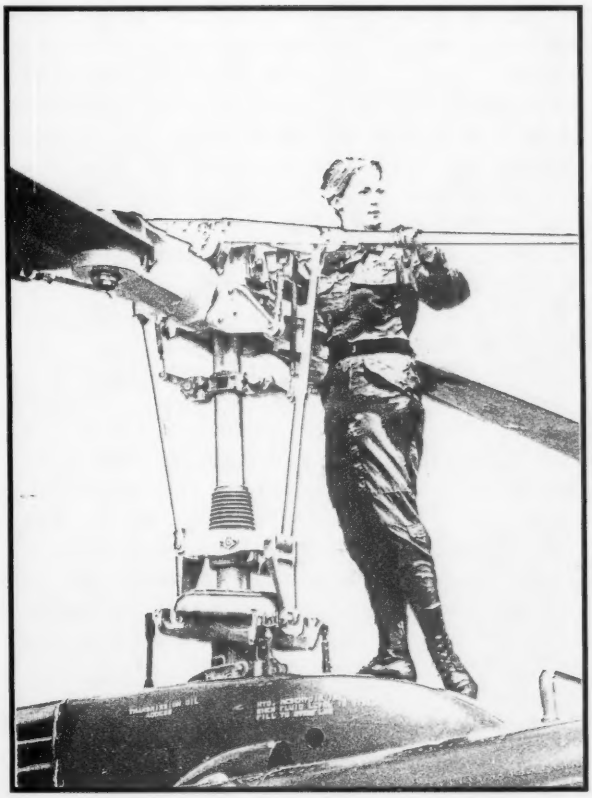
26. Memo, Pace and SECDEF, 3 Oct 52, subj: Responsibility for Transportation of Army Supplies, Equipment, and Personnel by Rotary-Type Aircraft in the Combat Zone, ABCHO.

27. "MOU Relating to Army Organic Aviation," 4 Nov 52, ABCHO.

An H-19 Chickasaw prepares for operations in Korea during the early 50's.

Women in Army Aviation

Changing Paradigms



In 1973 the Army trained its first female Army pilot—now Lieutenant Colonel Sally Murphy, a battalion commander in Zama, Japan. We, in Army Aviation, are facing important changes in the total role of women who fill our ranks. It is time for women in Army Aviation to take their rightful place as equal partners with men in the combined arms team and, as qualified leaders, take the Aviation Branch forward into the 21st century.

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When the Army trained its first female helicopter pilot in 1973, I was an elementary school student at Fort Rucker, AL, the Home of Army Aviation. My father, then an Army aviator, and my mother talked to me at length about that remarkable step forward for women. As I watched the training aircraft fly overhead, I realized I, like my younger brother, had every right to aspire to have a military career in aviation.

And what remarkable progress women have made the last 20 years in Army Aviation! The most senior have achieved the rank of lieutenant colonel, chief warrant officer (CW4), and command sergeant major (CSM). They have served as

company commanders, standardization instructor pilots, first sergeants, and CSM. Today, one commands a provisional battalion.

Women have flown, along with their male counterparts, into combat zones during Operations Urgent Fury, Just Cause, and Desert Storm (ODS). Women have been taken prisoner and have died aboard Army aircraft. They have served with distinction in assault, medium lift, medical evacuation, and special electronic mission aircraft units. They have performed missions that have taken them into harm's way, even in advance of attacking ground maneuver forces, as was the case in ODS.

Last year, after our successes in the Persian Gulf War, Congress amended Public Law 625, permitting the military to allow women to fly aircraft that engage in combat missions. Despite the findings of the Presidential Commission on the Assignment of Women in the Armed Forces, I believe we are on the verge of taking another, formerly unthinkable, step forward. Women in Army Aviation will be trained to fly aircraft that engage in combat missions and will serve in all aviation positions despite combat probability. This step has very large implications, not only for Army Aviation but for the Army.

We, in Army Aviation, are facing important changes in the total role of women who fill our ranks. What we do during the next few years in the Aviation Branch will set the precedent for the rest of the Army.

We will continue to reduce the size of our standing forces and to field high-technology weapons of mass destruction that require intellect, not merely physical strength to operate. As we do, the high-technology cockpit, after all, is not very far removed from the high-technology cupola.

We, as a branch, must set the standard in "bridging the gender gap," and create a complementary, cohesive team based on mutual respect, personal dignity, and most importantly, the warrior ethic.

All of the cockpits will be opened, to include those in attack helicopter battalions and cavalry squadrons, and even special operations units. When they are, women must honestly evaluate their expectations and motives for serving in the Aviation Branch.

Women in the branch, as well as those that will be assigned, must understand they will be assigned based on the needs of the Army, not on their personal preferences. Women, like their male counterparts, may be assigned to fly an aircraft they did not volunteer to fly, such as the AH-64 Apache, the AH-1 Cobra, or OH-58 Kiowa. Women who do not subscribe to this view, or are not willing to serve in all aspects of the branch, do not need to remain in Army Aviation.

We know there are women who very much want to serve in attack and cavalry units. Do such women have what it takes to perform in combat operations? Do they possess the "soul of a warrior?"

A look at history tells us that they do. During World War II, more than 800,000 Soviet women served at the front, making up about 8 percent of the Soviet military at the end of 1943. They served as members of aircrews, tank crews, and gun detachments. They were frontline medics.

As a third of the Soviet Union was occupied, and one tenth of the Soviet population was killed, every able-bodied person, including women, served in all roles and fought on every front.[1]

Nadya Popova, a 19 year old from the Ukraine, became one of the first female Soviet bomber pilots. Her unit, the 588th Night Bomber Regiment, became a "Guards Units," the highest honor awarded a regiment. Nadya herself flew more than 850 combat missions.

During the Don River Basin campaign, she flew an average of 15 bombing missions a night, in open cockpits in subzero weather.

When asked her reaction to killing, she replied, "I don't think one can separate men from women in this situation. War does not spare anyone; it does not distinguish between the sexes, or the young from the old . . . I killed many men, but I stayed alive . . . war requires the ability to kill, among other skills." At the end of the war, Nadya was named a hero.[2]

Sophia Kuntsevich, from Byelorussia, already was trained in explosives and first aid in the communist youth league before World War II. She served in the war as an Army medic. She related that, more devastating than the killing, was the effect of the war on the dying and wounded. "Seeing the suffering I could not stop—the dying, those who had lost arms, legs, faces . . . it made a deep impression. At the same time you couldn't show it."

During one battle, after a day of fighting, Sophia's battalion of 600 had been reduced to only 70 survivors. After the last officer was killed, she organized the survivors, led them in an attack, and held the position until reinforcements arrived later that night. She was awarded the Order of the Red Banner, one of the Soviet's highest military honors.[3]

Countless more women have experienced combat first hand . . . Israelis, Americans, French, and

Salvadorans to name a few. They have shared war's hardships: confusion, chaos, fear, lack of privacy, hunger, filth, terrible noise, mutilation, and death. Some, like the men around them, cried hysterically with fear during their first combat experience. But they prevailed and, like their male counterparts, carried out their missions with bravery and honor.

Yes, women do have the souls of warriors. Women are as committed as men. Why shouldn't women be offered the same opportunities to serve and succeed in their chosen profession as men?

Women have been successful in Army Aviation. The move Congress made to change Public Law 625 demonstrates this fact. Women are looking for their first Department of the Army, board-selected, battalion commander and their first CW5.

These leaders take time to "grow." They need the same career opportunities as their male counterparts to achieve the same successes. It is time to open fully the branch to women. It is time for women in Army Aviation to take their rightful place as equal partners in the combined arms team. It is time to shatter the "glass ceilings."

Today's combat probability coding has closed 70 percent of all aviation battalion executive and operations officer positions, as well as battalion command positions, to female aviators. Without these critical career opportunities, women aviators can not become brigade commanders, much less rise to the rank of general officers.

The time has come to ensure highly qualified leaders, regardless of gender, take the branch forward into the 21st century.

How will Army Aviation access women into previously closed attack battalions and cavalry squadrons? We can easily eliminate the current gender bias in the flight school algorithm that selects students for aircraft tracking.

Assuming women would be selected to fill each track in the same percentages as men, we could see up to 25 OH-58A/C- or AH-1-rated female aviators in the first year.

After initial assignment, these female aviators would be selected for advanced aircraft transitions on the same basis as their male counterparts. Primary consideration would be Army needs not individual preferences.

The U.S. Total Army Personnel Command will develop plans to transition female commissioned and warrant officers already in the field into previously closed aircraft. This should ensure women are brought on line in attack battalions and cavalry squadrons at all leadership levels.

Women, already qualified in advanced aircraft in higher percentages than men, should transition into these aircraft based on the population women represent in Army Aviation. Higher percentages would be unfair to male aviators. Women already qualified in advanced aircraft should not be selected for more advanced aircraft transitions in any greater numbers than their male counterparts.

Will opening the attack battalions and cavalry squadrons to qualified female soldiers make that much of an impact? Relatively small numbers of women are in Army Aviation. It is doubtful any aviation organization will have a female population of more than 5 percent. I submit that the most significant impact on these units will be psychological.

We also must address the impact of key leader nondeployability. For many already serving in attack and cavalry units, integrating women will be "no big deal." They have served with females in other types of aviation units and have found these women to be professional and competent. Some, however, feel women do not belong in these units, despite the qualifications of women to serve. It will take a concerted effort by leaders at all levels to change these paradigms.

As we confirm aviation's contributions to the new power projection Army, we in the Aviation Branch, are working to expand the future roles of aviation in dramatic fashion. No other branch of the service fits as perfectly into our national military strategy of contingency force operations as well as Army Aviation.

Aviation provides lethal, early deploying forces, capable of exe-

. . . we can not move forward into the next century if we continue to look at the past.

cuting flexible deterrent options across the continuum of military operations. But there are two ways to look at Aviation in the restructured Army: We can dwell on past successes and maintain the status quo; or we can focus on the future, and realign our tactics, doctrine, material, and force structure to advance our status as the unilateral military superpower.

One can address the need to open fully the Aviation Branch to women in the same terms. Clearly, we can not move forward into the next century if we continue to look at the past. The Army of the future will look dramatically different than the Army of the present. It will no longer be business as usual as we continue to reshape the Army into a lean warfighting machine. Our force structure will continue to shrink over the next few years; therefore, we must take full advantage of the resources that we will have available.

This calls for us to break with the traditional roles that women have played in Aviation. We can make Aviation better by tearing down the barriers to individual progression, and taking only the best qualified forward, despite gender.

Leaders at all levels must be develop these gender relationships. It is unfortunate discrimination still exists in our society in the forms of racism and sexism. Honest, open communications in the unit go a long way toward bridging gaps and quieting the backlash.

Leaders who ensure equal treatment for all and each individual meets or exceeds the same, tough standard will have no problems with unit espirit when women join their ranks.

One of the most critical personnel issues of contingency force operations is what to do with soldiers that become nondeployable. Leaders at all levels must be concerned about unit readiness.

Despite gender, nondeployable soldiers should not fill critical positions, such as command positions. Pregnancy, a valid readiness issue (pregnant soldiers are nondeployable), continues to be a concern for senior leaders, as well as female soldiers.

As a company command designee, my future battalion commander asked me, candidly, if I were planning to start a family during my tour in command. At the time, I was a little astonished by the question. I now realize he was taking a "readiness risk" and trusted me to live up to my end of the bargain by ensuring that I remained deployable until I relinquished command.

Commanders must ensure key leaders understand that, if they become nondeployable, they will be removed from critical positions. Career-oriented women must think of their obligation to their unit, in any plans to begin, or add to, their family.

The Army must address institutional issues as it opens its Apache helicopters, but not its Abrams tanks and Bradley fighting vehicles. I do not intend to explore these issues fully, but the part they play in our national military strategy deserves our attention:

- The Army's central selection process for promotion, command, and schools must be prepared to eliminate any gender bias as the Army Aviation female population matures to battalion and brigade levels.
- Other combat arms commanders must be prepared to accept female aviation commanders, as well as operations and aviation liaison officers, into their tactical operations centers and treat them with the same respect as their male counterparts.
- Women have assimilated into Army Aviation with absolute confidence. They will continue to perform well. The Army should be prepared to expand the same opportunities into the other combat arms. In eliminating the combat probability restriction in Army Aviation, we open the door for women to serve in similarly restricted positions, to the extent of their physical capabilities, in other combat arms branches.
- Part of our national military strategy calls for us to be able to reconstitute our armed forces. If, in the future, we reconstitute these forces on an other than voluntary basis, we must deal with how we will treat the conscription of women.

Army Aviation is leading the way into the 21st century by breaking with old paradigms. We are instilling the "warrior spirit" into each and every member of the Army Aviation team. We are all part of that spirit.

The key to our future success lies in treating each other with the mutual respect that we earn through our individual and collective accomplishments. Female soldiers throughout the Aviation Branch are very much aware our mission is warfighting, and we stand ready. ❐

Notes

1. Shelley Saywell, *Women in War*, New York: Viking Press, 1985, p. 131.
2. Ibid., pp. 138-149.
3. Ibid., pp. 135-151.

Flight Pay, Gates, and Wings

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I routinely hear questions about Aviation Career Incentive Pay (ACIP), meeting "gates," and requirements for senior and master Army aviator wings. Over the years I have found it to be beneficial to save articles, similar to this one, and other data to help with questions that are not easily answered in readily accessible publications.

ACIP, often called "flight pay," is divided into two phases for officers (Figure 1). The Phase I scale pertains to commissioned officers, warrant officers, flight school students, flight surgeons, and other designated medical officers. Aviation service for commissioned and warrant officers starts at the beginning of flight school. This date is called the aviation service entry date (ASED). Phase II is for commissioned officers only. Warrant officers with over 6 years of aviation service maintain the monthly rate of $650 until expiration term of service, pending no unusual circumstances.

Phase I

Monthly Rate	Years of Aviation Service
$125	2 or less
$156	Over 2
$188	Over 3
$206	Over 4
$650	Over 6

Phase II

Monthly Rate	Years of Aviation Service
$585	Over 18
$495	Over 20
$385	Over 22
$250	Over 25

Figure 1. ACIP For Officers

Criteria for receiving continuous incentive pay are based on aviation officers meeting their "gates." Aviation officers who meet their gates will receive continuous incentive pay whether they are in an operational flying duty position or not. If aviation officers do not meet their gates, their entitlement to incentive pay is conditional. These aviators, like flight surgeons, are entitled to flight pay only while in an operational flying duty position. Consequently, they are required to fly a minimum of 4 hours per calendar month. If they do not fly 4 hours in any month, excess hours flown during the preceding 5 months, which have not been used to qualify for incentive pay, may be applied to meet this 4 hour requirement. For fractions of a calendar month, the aviator on conditional status must fly the appropriate percentage (i.e., 18 days = 2.4 hours).

If you do not want to be in a conditional status, make sure you meet your gates—be careful! You are probably the best career man-

ager you have, so protect yourself. Assignment officers will try to place aviators in operational flying duty positions to allow them to meet their gates. Your orders should show that you must be assigned to an operational flying duty position. Diversion to a nonoperational flying duty position at this point requires a waiver from the Department of the Army.

Meeting gates is based on the accumulation of total operational flying duty credit (TOFDC). An aviator's TOFDC is annotated on the Officer Record Brief (ORB) in terms of months. These data are based on your duty position. If your duty position is not an authorized flying position, you should not receive TOFDC despite what you may be led to believe. If you are in doubt about a position, request documentation that proves the position authorizes flying duty or call your assignment officer. Guess who pays back the unauthorized incentive pay? You do! That is right, there is an audit system. Currently, three systems are in place to determine gates. The systems are based on ASED. The criteria outlining the three gate systems are in Figure 2.

TOFDC is continuous if an aviator remains in consecutive operational flying positions. Leave, travel, and temporary duty of less than 90 days between operational flying assignments count toward TOFDC. TOFDC begins the day following the date an aviator signs out of a nonoperational flying duty position en route to an operational flying duty position. A minimum of 15 days is required to receive credit for a full month. Detailed questions about specific incentive pay entitlement should be addressed to local finance and accounting offices. Related reference material is contained in the *Department of Defense Military Pay and Allowances Entitlement Manual*. Aviators who suspect errors in their TOFDC should request an audit by writing Department of the Army, U.S. Total Army Personnel Command, ATTN: TAPC-OPD-D, 200 Stovall Street, Alexandria, VA 22332-0413.

Aviators usually are required to apply for their aeronautical ratings (wings). Applications should be made through the flight operations personnel that maintain an aviator's flight records. Aviators should apply well in advance to allow adequate time to process the application. Table 1 shows the eligibility requirements for the designation of Senior and Master Army Aviator.

Rated service begins the day aviators are awarded their initial wings, usually upon graduation from flight school. Aviators are required to maintain a current physical whether they are in an operational flying position or not. The reference for aviation service of rated Army officers is Army Regulation (AR) 600-105. Flight sur-

Old System - Aviation Officers with ASED before 1 October 1979.

12-year gate: 72 months' TOFDC entitles continuous ACIP to 18 years' aviation service.
18-year gate: 108 months' TOFDC entitles continuous ACIP to 22 years' TFOS.
132 months' TOFDC entitles continuous ACIP to 25 years' TFOS.

Transitional System - Aviation Officers with ASED from 1 October 1979 to 30 September 1985.

72 months' TOFDC as of 911001 entitles continuous ACIP to 18 years' aviation service.
Note: If an aviator under this system did not have 72 months as of 911001, the transitional 12-year gate applies.
12-year gate: 72 months' TOFDC entitles continuous ACIP to 15 years' aviation service.
15-year gate: 108 months' TOFDC entitles continuous ACIP to 18 years' aviation service.
18-year gate: 120 months' TOFDC entitles continuous ACIP to 22 years' TFOS.
144 months' TOFDC entitles continuous ACIP to 25 years' TFOS.

New System - Aviation Officers with ASED on or after 1 October 1985.

12-year gate: 108 months' TOFDC entitles continuous ACIP to 18 years' aviation service.
18-year gate: 120 months' TOFDC entitles continuous ACIP to 22 years' TFOS.
144 months' TOFDC entitles continuous ACIP to 25 years' TFOS.

Figure 2. Gate Systems

Rating	Rated Service	Flying Time and TOFDC	Physical
Senior Army Aviator	7 years	1,500 hours or 1,000 hours and 72 months' TOFDC	Current class 2 medical examination
Master Army Aviator	15 years	3,000 hours or 2,000 hours and 108 months' TOFDC	Current class 2 medical examination

Table 1. Senior and Master Army Aviator Eligibility Requirements

geons can find detailed eligibility requirements for their aeronautical ratings in AR 600-105, chapter 2, table 2-2.

Enlisted personnel are authorized three degrees of badges in Army Aviation—the Aircraft Crewman Badge and the Senior Aircraft Crewman Badge, and the Master Aircraft Crewman Badge. Detailed eligibility requirements for enlisted crewman badges are in AR 672-5-1. The Aircraft Crewman Badge usually is awarded when a soldier completes formal advance individual training. Table 2 shows the eligibility requirements for the designation of Senior Aircraft Crewman and Master Aircraft Crewman.

Award	Aviation Service	Minimum Rank	Endorsements	Physical
Senior Aircraft Crewman	84 months (does not have to be consecutive)	E-4	Current unit commander	Current class 3 medical examination
Master Aircraft Crewman	180 months (does not have to be consecutive)	E-6	Current unit commander, and next higher commander of assigned unit	Current class 3 medical examination

Table 2. Senior and Master Aircraft Crewman Eligibility Requirements

Pay Grade	Monthly Rate
E-9	$200
E-8	$200
E-7	$200
E-6	$175
E-5	$150
E-4	$125
E-3	$110
E-2	$110
E-1	$100

Table 3. Crewmember Incentive Pay Rates

Aviation service must have been spent on flying status in one or more of the following principal duty assignments: crew chief, flight engineer, aeroscout observers, or as noncrewmembers such as medical technicians, aircraft maintenance supervisors, or technical inspectors.

Noncrewmember incentive pay is $110 per month. The crewmember incentive pay for enlisted personnel is based on pay grade (See Table 3.

Specific questions about the data in this article should be addressed through your chain of command. ❐

JRTC Uses Soviet-Built Helicopter

Sergeant Lee Zimmerman
Public Affairs Office
Joint Readiness Training Center
Fort Chaffee, AR

Battlefield realism has always been the hallmark of the Joint Readiness Training Center (JRTC), Fort Chaffee, AR. That realism increased when a Soviet-built Mi-8 "HIP" helicopter was used during a JRTC exercise.

The Mi-8 was used to insert two opposing force (OPFOR) infantry squads behind "enemy" lines during the latest JRTC exercise, which ended 20 August 1992. The helicopter has been used before in JRTC rotations for OPFOR resupply missions. This, however, is the first time that the HIP has been used to insert troops onto the battlefield.

"This provides the realistic portion of training," said the HIP's pilot, Master Warrant Officer Jeff Staten, Threat Support Activity, Operational Test and Evaluation Command, El Paso, TX. "Primarily what we want to do is provide a good threat environment for the training."

"The benefit is that the troops in the field get to actually see the equipment and hear it, operate against it, and hopefully cut down on fratricide on the modern battlefield. This will pay big dividends in the next conflict," he said.

The HIP flew the soldiers to a blue force (BLUEFOR) (American) command and control site, where they dismounted and conducted a raid to destroy BLUEFOR equipment and gather intelligence.

"This replicates a possible threat that the U.S. Army might face on the battlefield," said First Lieutenant (1LT) John Callahan, Executive Officer, Company A, 1st Battalion, 509th Parachute Infantry Regiment. 1LT Callahan's company provided the 17-man assault element for the raid.

"Commanders and soldiers in areas behind their own lines often have a false sense of security," said 1LT Callahan. "This is going to put the fight right there with the guys that control the battlefield. It adds to the realism all the way around," he said.

"The HIP is not the first piece of Soviet equipment to be used here," said Major (MAJ) Mike Dunn, Intelligence Officer, JRTC, and it will not be the last. Soviet radar systems were used in earlier exercises to "fight" against U.S. Air Force pilots. The experiences of those pilots were a stepping stone to getting more Soviet equipment here. When Brigadier General George A. Fisher Jr., Commander, JRTC, and MAJ Dunn saw the Soviet helicopters, they knew that they could be used to enhance battlefield realism at JRTC. "As soon as we saw them," said MAJ Dunn, "we wanted to get them here."

The HIP made its first appearance at JRTC during an exercise in January 1992. Besides the Mi-8 HIP, a smaller helicopter and small fixed-wing observer aircraft also have been used. "They worked out so well, we wanted to get them here as much as possible," said MAJ Dunn. Later this year another Soviet aircraft, the Mi-24 HIND attack helicopter, will be used to increase the realism and improve the training during JRTC exercises.

The scenario for JRTC exercises simulates an island where a U.S. military force is sent to help a friendly nation combat invaders from a hostile neighbor. The exercise gives U.S. rapid-deployment forces a chance to practice their skills in a realistic setting against a tough, aggressive enemy—JRTC's 1st Battalion, 509th Parachute Infantry Regiment, known as the OPFOR.

The simulated battlefield combines the types of units from the armed forces that would work together under actual combat conditions. The units will learn the procedures they must know to fight together as an effective team. ❐

Photo by Lee Zimmerman

The Mi-8 "HIP" prepares to land.

Photo by Lee Zimmerman

OPFOR soldiers scurry from the Mi-8 "HIP" after a flight into "enemy" territory.

OPFOR Conducts Unique Air Assault Mission

Staff Sergeant Donald Hendricks
Squad Leader
3d Platoon, Company A
1st Battalion, 509th Parachute Infantry Regiment
Fort Chaffee, AR

On 17 August 1992, 18 soldiers of 3d Platoon, Company A, 1st Battalion, 509th Parachute Infantry Regiment (Opposing Force [OPFOR]), Fort Chaffee, AR, boarded a helicopter to perform a first-ever mission. The mission was performed by the OPFOR during a Joint Readiness Training Center (JRTC), Fort Chaffee, AR, exercise. The exercise was to conduct an air assault mission in a Soviet-built helicopter.

The soldiers, trained in helicopters assaults, loaded the Soviet-built Mi-8 "HIP" helicopter at 5:50 a.m. and boarded the aircraft for a 10-minute, low-level insertion deep into the rear area of the defending American forces. Their target was the American brigade tactical operations center (TOC), the nerve center of the defending forces.

While flying to the objective, several engagements were made against the helicopter by the defending American forces. However, the aircraft was able to avoid the antiaircraft fire. Suddenly a bell sounded in the aircraft to alert the troopers that the Mi-8 was 1 minute from landing.

The 18 specialized airborne soldiers tensed and prepared for the landing. When the HIP touched down, the soldiers off-loaded the helicopter in less than 9 seconds and took their positions around the aircraft. The Mi-8 leapt into the air and all was quiet again. The soldiers quickly regrouped and moved towards their target, only 300 meters away.

Shortly after moving out, five soldiers left the main group and moved to a supporting position for the main attack. Two of the defending soldiers stumbled into the support position, starting a battle that would eventually last an hour. The remaining 13 soldiers advanced on line, engaging the enemy as they showed themselves. Casualties were being taken on both sides.

The OPFOR advanced to their objective. They found a tent covered by a camouflage net with several antennas. The OPFOR converged on the target to secure it, gather intelligence, and then destroy it.

The intensity of the fire increased by both sides. Attempts by a few soldier to get to the tent activated their Multiple Integrated Laser Engagement Systems (MILES). Finally, one soldier made it into the tent and engaged the American soldiers, setting off their MILES systems. This soldier quickly gathered maps showing enemy positions and left the tent. He was "killed" by American forces, who had been reinforced and began a counterattack.

After several minutes of intense firing by both sides, the battle suddenly ended and all was quiet. While the observer/controllers assessed the casualties, the American medics tended to the wounded of both sides.

The result of this first-ever, all-important mission favored the OPFOR because the American brigade TOC was destroyed and the staff "killed." Because this air assault mission was a complete success by the OPFOR, it further expands the capabilities and scope of training provided by an ever-growing JRTC. By conducting these new missions, the Army's light infantry units will be better trained and able to handle situations that may occur in future combat operations. ❐

Taking Safety To HEART

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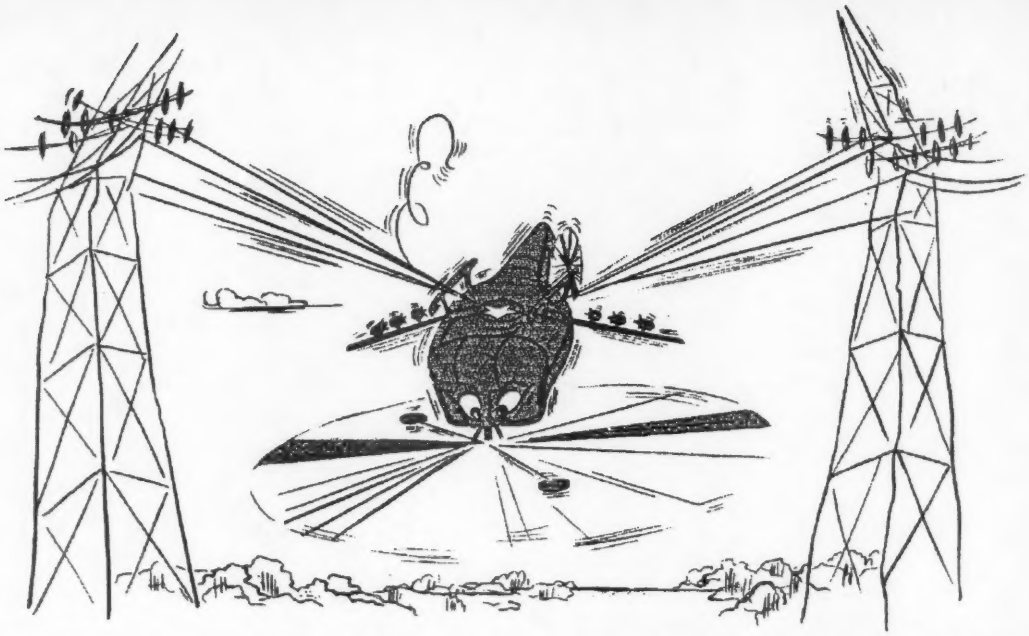
Human error continues to be the largest factor to plague a commander's safety program. Many Army publications are available to help commanders develop good safety programs. However, the best structured safety programs may not focus on the human error factor. The following guidelines will help aviation commanders and leaders to apply the principles of Human Error Accident Reduction Training (HEART). Although these principles are countermeasures against aviation mishaps, they apply to ground mishaps as well.

Promote Physically and Mentally Ready Performers

Aircrew members perform best when physically fit, well rested, nourished, and with their stress levels at neither the minimum nor maximum levels. Commanders provide the basic needs for aircrew members. However, the emotional distractions that degrade aircrew members' performance may be more difficult to determine. Statistics show that aircrew members' preoccupation with personal problems results in errors and poor judgment. To develop top performers, a commander must establish a good crew endurance policy and be sensi-



tive to their mental and physical health.

Commanders and supervisors must monitor the additional duties of aircrew members to determine if the duties distract the aircrew members from their pilot duties. External distractions can degrade performance, while pressures from the commander can force aircrews to disregard rules or take shortcuts. Commanders should ask aircrews to "pre-flight" themselves to determine physical and mental fitness to fly. Some common methods of reducing stress levels are organized physical activities, social activities, informal counseling to show concern, and time off with family.

Develop Good Planning

Training exercises, deployments and battlefields are very dynamic, and even "the best laid plans of mice and men often go awry." There is no substitute for proper planning. Many errors happen during the execution phase because of hasty planning or no planning. If most decisions for a mission were made at the planning table, the errors made during the decision making process in the cockpit would be reduced. If aircrew members do not plan for such variables as weather, fuel requirements, altitudes, frequencies, etc., they are more likely to commit errors that result in accidents.

Commanders must monitor aircrew members' mission performance and insist on proper planning. However, they also must provide aircrew members adequate time and resources to prepare for their mission.

Develop Proficiency and Anticomplacency

The lack of proficiency is the enemy of aircrews when tasked to perform maneuvers not conducted regularly. Flight tasks are perishable skills and some are developed poorly. The quality and recency with which aircrew members perform certain tasks directly affects their proficiency. Flying hour programs, standardization programs, and aircrew training programs directly affect proficiency in aircrew members' mission performance. The "crawl before you run" philosophy is essential to conduct training, if aircrews lack proficiency.

Commanders and mission briefers must look at pairing experience with inexperience in battle rosters and training flights. Proficiency is enhanced by effective training programs whereby new aircrew members are trained by individuals with high professional and personal standards.

Routine flight missions may lead to complacency. Commanders should conduct debriefings of missions to provide personnel with the opportunity to share lessons learned. Discussions of close calls and near misses are effective reminders to guard against complacency.

Commanders should not tolerate sarcasms and "put-downs" for soldiers who admit honest mistakes. Commanders should establish an open atmosphere that encourages frank, honest discussions. Safety meetings where detailed pictures are shown (for their shock value) are very effective reminders of aircrew members' vulnerability to risks.

Establish the Safety Climate

The commander's safety philosophy is a vague principle to establish. The commander must pursue a good safety climate and insist on high standards. A commander must realize that no peacetime training task warrants unnecessary risks. Losses in wartime due to accidents are as detri-

mental to a commander as a combat loss. A good safety climate does not include reckless and risk-taking behavior. Often a fine line exists between the risk-taker and the "mission first" soldier who is eager to please his commander.

Commanders must establish a policy that requires aircrew members to be accountable for their actions. Intentional disregard for rules and safety common sense will not be tolerated. Commanders must insist on "by-the-book" procedures, no cutting corners. Standards must be high and apply to everyone. Aircrew members must be accountable for intentional disregard for rules. However, human imperfections and honest mistakes must be considered. Commanders should encourage an atmosphere where peer pressure is applied to ensure rules are followed. Commanders must insist on safe principles and common sense.

Risk Assessment and Risk Management

Some level of risk exists in every mission from Operation Desert Storm to a one aircraft training flight. Every mission has its own unique level of acceptable and unacceptable risk that must be determined by the appropriate individual. The commander-in-chief determines the risk for an operation such as Desert Storm/Desert Shield. The pilot-in-command determines the risk for the aircraft on a training flight.

Commanders must evaluate every mission to assess and determine risks, and then develop, during the planning phase, methods and techniques to reduce risks to acceptable levels. Reducing risk can be as simple as flying at a higher altitude. After risk management has been completed, commanders still are faced with unacceptable risks that should elevate the decision making process up the chain-of-command.

Monitor the Safety Pulse

Safety surveys and sensing sessions can give the commander the safety pulse of a unit. Given the proper opportunity, aircrews and soldiers are typically ready and eager to discuss safety hazards. However, commanders also must recognize known hazards and work to reduce them. The commander who displays commitment, concern, and sincerity over the stewardship of his assets usually will be rewarded with soldiers who look after the commander's expressed interests.

Commanders also must insist that all personnel in their unit monitor the safety program. Trends such as a series of close calls sometimes provide indicators for potential mishaps. Through early detection, the commander can break the chain of events that lead to accidents.

Commanders can implement effective and successful safety programs. No magic formula is available for avoiding accidents. The most successful safety program, true to human nature, can have imperfections. Regardless of method used to establish a safety program, the primary cause of accidents is human error. Therefore, an effective safety program focuses on the human angle. The result is a good safety program that takes safety to **HEART**. ❐

U.S. Army Class A Aviation Flight Mishaps

Fiscal Year	Number	Flying Hours	Rate	Army Fatalities	Total Cost (in millions)
FY 92 (through 30 November)	4	234,038	1.71	4	$20.2
FY 93 (through 30 November)	8	236,679 (estimated)	3.38	10	$36.5

Dietary Fat

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This is the second in a series of articles on diet and aviator performance, the first of which appeared in the January/February 1992 issue of *Aviation Digest* ("A Diet For Enhanced Aviator Performance," by LTC Charles A. Salter). The nutritional principles presented in this series should be understood and practiced by all aviators. These principles will ensure optimal health and performance necessary for the physical and mental stresses of aviation-related tasks.

Even individuals concerned with proper nutrition often have difficulty locating and interpreting nutritional advice. Nutrients such as vitamin C, zinc, and fiber have been marketed aggressively as dietary supplements. Often, the rationale for such nutrient supplementation is not based on sound scientific information. It is supported by the thought that "if a little is good, then a lot must be better." Such thinking, however, can lead to dangerous overdoses.

The fat content of foods has received much interest in both scientific journals and popular publications. Most people who become interested in diet begin to read food labels and immediately are confused by terms like "hydrogenation," "antioxidant," and "butylated hydroxyanisole." Dietary supplementation with high levels of "fish oil" polyunsaturated fatty acids has recently received much attention in advertisements and magazine articles. This article provides guidance on how to monitor fat intake and offers some advice concerning "fish oil."

Functions of Fat in the Body

The American Heart Association recommends limiting dietary fat to under 30 percent of total caloric intake. This recommendation is based on scientific evidence suggesting that high fat intake is related to atherosclerosis (clogged arteries) and other heart problems in both humans and animals. Therefore, fat often is viewed negatively, which is unfortunate because fat plays a beneficial role in the maintenance of body functions. Three of these functions are as follows:

- Fat cells provide a cushion for vital organs.
- Fatty acid storage provides a compact deposition of energy, twice as much as carbohydrates and protein. Since fat around the waist is hard to lose, fat usually is viewed as inactive tissue when compared to other tissues in the body. However, this theory is not correct. The metabolism of fatty acids is very dynamic. Fat cells are constantly breaking down and rebuilding, making them re-

sponsive to both the quantity and quality of the diet.

- The most important function fatty acids play in the body is maintaining cell wall integrity. Every bodily cell requires fatty acid molecules in the cell wall to carry out the various functions. Fatty acid molecules are involved in the transport of nutrients, hormones, and other molecules in and out of the cell. Like the fatty acid stored in fat cells, the type of fatty acid found in cell walls is responsive to the type of fat in the diet.

Because fat serves several beneficial purposes in the body, some in the diet is required. However, the average American consumes far more than desirable.

Basic Chemistry of Fat

Fatty acids are made up of carbon atoms that can be described as links in a bracelet. The carbon chains can vary in length, with most fats containing 4 to 20 carbons. Each carbon atom can link to four other atoms. For example, a carbon atom within a chain uses two bonds to link two other carbon atoms. The other two bonds link hydrogen atoms. When all the bonds are taken up by hydrogen atoms, the fatty acid is termed a saturated fatty acid (Figure 1, Part A). When a hydrogen atom is missing between two neighboring carbon atoms, a double bond forms; this becomes an unsaturated point in the fatty acid chain forming an unsaturated fatty acid (Figure 1, Part B). When two or more double bonds exist in a chain, the fatty acid is termed a polyunsaturated fatty acid (Figure 1, Part C).

The scientific community usually is convinced that, with too much fat intake, eating higher levels of saturated fats contributes to atherosclerosis and heart problems. Thus, the American Heart Association recommends a diet low in fat content that consists mainly of polyunsaturated fatty acids.

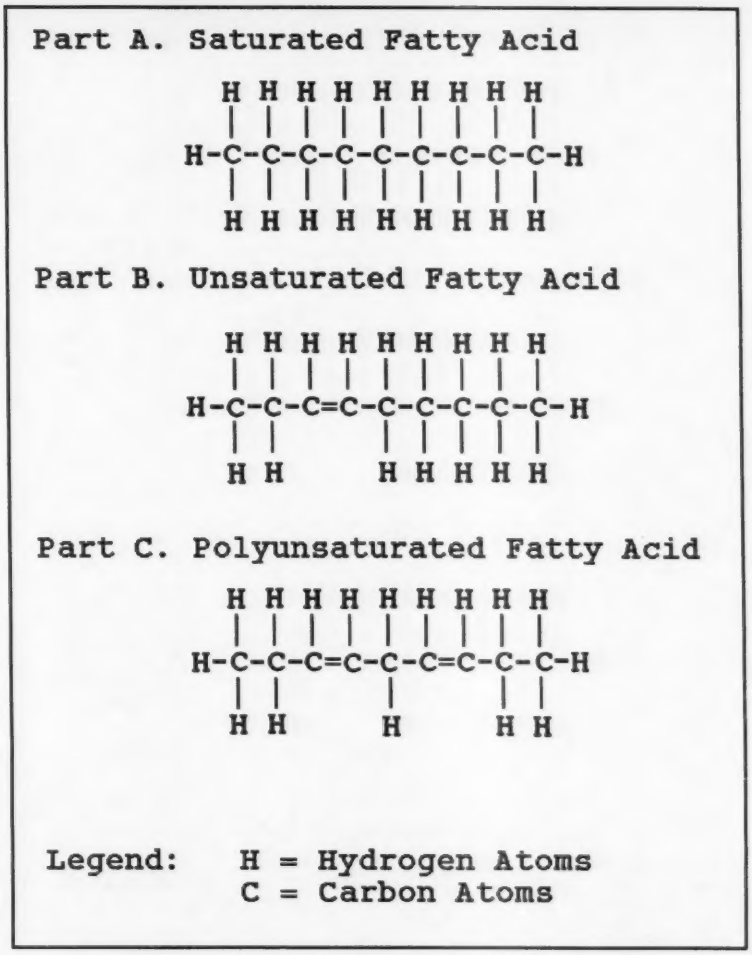

Part A. Saturated Fatty Acid
Part B. Unsaturated Fatty Acid
Part C. Polyunsaturated Fatty Acid
Legend: H = Hydrogen Atoms
C = Carbon Atoms

Figure 1. Chemical Structure of Fatty Acids

Of particular importance to human nutrition is a polyunsaturated fatty acid called linoleic acid. Some chemical reactions in the body require linoleic acid. Linoleic acid has 18 carbon atoms and 2 double bonds between carbons 6 and 7 and between carbons 9 and 10. This fatty acid is essential to the human diet because our body is unable to manufacture this nutrient.

What Should You Eat?

Figure 2 shows the percentage of fat found in foods and can be used as a guide in controlling fat intake. However, the amount of fat consumed is only part of the problem—individuals also should consider the type of fatty acids consumed. Generally, fats of animal origin contain more saturated fatty acids while vegetable fats tend to be polyunsaturated. However, there are exceptions to this general statement; coconut, palm kernel, and chocolate oils contain a high percentage of saturated fatty acids. Beef has a higher percentage of

Percent Fat	Food
90-100	Salad and cooking oils and fats, lard
80-90	Butter, margarine
70-80	Mayonnaise, pecans, macadamia nuts
50-70	Walnuts, dried unsweetened coconut meat, almonds, bacon, baking chocolate
30-50	Broiled choice T-bone and porterhouse steaks, spareribs, broiled pork chop, goose, Cheddar and cream cheese, potato chips, French dressing, chocolate candy
20-30	Beef pot roast, broiled lamb chop, frankfurters, ground beef, chocolate chip cookies
10-20	Broiled lean round steak, broiled veal chop, roast turkey, eggs, avocados, olives, chocolate cake with icing, French fried potatoes, ice cream, apple pie
less than 1	Baked potato, most vegetables and fruits, egg whites, chicken consomme

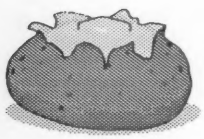


Figure 2. Fat Content of Different Foods

saturated fatty acids than poultry and fish. Safflower, corn, cottonseed, peanut, and soybean oils are especially rich in linoleic acid, and often are referred to as "high in polyunsaturated."

Food labels often show that foods contain "hydrogenated oils." To produce hydrogenated oils, manufacturers remove the double bonds in unsaturated fatty acids by adding hydrogen. This procedure gives the food a desirable texture and helps prevent the oils from becoming rancid during storage.

Texture changes occur because the presence of unsaturated fatty acids changes the temperature at which fat melts. The more unsaturated the fat, the more 'liquid' it becomes at room temperature. The process of "hydrogenation" makes fats solid but lessens their health advantages.

Although polyunsaturated fatty acids provide certain health benefits, the double bonds in the carbon chain make them more susceptible to spoilage. Oxygen from the air reacts with the double bonds causing the breakdown of the carbon chains, which ultimately causes the fat to spoil and become rancid.

The double bonds of the fatty acids in tissues can similarly be "attacked" by oxygen in the body. Although there are mechanisms within each cell to prevent this from happening, these mechanisms can be overridden during times of injury, stress, or disease. Once the polyunsaturated acids incorporated in cell walls are "oxygenated," the cell wall can no longer perform its particular function.

Fish Oil Supplementation

The issue of the possible benefits of fish oil in the diet arose from observations made with Eskimo populations. Given the connection between high fat intake and atherosclerosis, the diets of Eskimos presented researchers with a paradox. Eskimo diets are normally extremely high in fat content, yet the incidence of atherosclerosis and heart problems was lower than expected. Many variables, such as genetics and life style differences, have been proposed as reasons for the paradox. Some researchers feel that the lower disease rates are due to chemical characteristics of the polyunsaturated fatty acids found in many fish oils consumed by Eskimos.

The double bonds in the fish oil polyunsaturated fatty acids are located between different carbon atoms than those in mammal or vegetable polyunsaturated fatty acids. These oils (N-3 polyunsaturated fatty acids, eicosapentaenoic acids, or evening primrose) often are sold in health food stores.

Recently, research into the possible benefits of fish oil in the diet has received much attention. The interest concerns the relationship between polyunsaturated fatty acids and infection. During infection, the polyunsaturated fatty acids in the body are changed into compounds that cause fever and pain. In fact, part of the pain-relieving effect of aspirin is due to its ability to block this effect on polyunsaturated fatty acids.

Both animal and human studies have shown that after 6 to 10 weeks on a high fish oil diet, the polyunsaturated content of cells changes to resemble the fatty acids contained in the fish oil. Evidence suggests that these fatty acids are not converted as readily into fever and pain-causing compounds during infection. Although these findings are accepted widely, not all researchers agree this is a beneficial situation. More recently, studies have shown there may be some harmful effects of high fish oil supplementation on the immune system. Furthermore, it appears that fish oil polyunsaturated fatty acids are more susceptible to breakdown by oxygenation. This data suggests that additional fish oil in the diet increases the need for Vitamin E because of its "antioxidant" properties.

Recommendations

The average American's eating habits provide over 40 percent of the total calories as fat, but this should be lowered to approximately 30 percent or less. Reducing one's intake of saturated fats is especially important. When cooking with oils, use products that contain mostly polyunsaturated fatty acids.

You should avoid vegetable oils and other fats that have been hydrogenated. Coffee drinkers should be aware that most nondairy creamers contain hydrogenated coconut or other oils.

Fish is naturally low in fat and should be included in a balanced diet. More research is required to determine if the type of polyunsaturated fatty acids found in fish is particularly beneficial. Current evidence does not support rushing to health food stores for supplements containing concentrated fish oils.

Many good basic nutrition textbooks are available. Some are available at the local library. Most of these textbooks have tables listing the nutrient value of common foods and will help in diet planning. One helpful source is the Recommended Dietary Allowances (RDA) published by the National Research Council.

To perform safely under stressful situations, eating properly and maintaining health are important considerations. However, very few individuals take the time to assess their diet and make changes. Hopefully, articles concerning health and nutrition will raise the level of consciousness and create a better line of communication between the research community and the soldier. ❐

Tactical Air Traffic Control

A Combat Multiplier

First Sergeant Mike Maselli
A Company
1st Air Traffic Control Battalion
58th Aviation Regiment
Fort Campbell, KY

In October 1991, a helicopter battalion at Fort Campbell, KY, was in the field conducting night operations. For whatever reason, a tactical air traffic control (TAC) slice was not initially integrated into the mission. When this omission was mentioned by the assistant division commander for support, a request for a TAC team went out. By time the TAC team arrived, the operations and training officer (S3) determined that the mission was too far into its scenario for the team to be effective, and the team remained with the tactical operations center (TOC). Not wanting to waste training time, the TAC team leader had his crew set up their equipment so they could at least monitor the operation at the forward arming and refueling point (FARP). When the radios were turned on, this is the first transmission they heard, "This is a mess! Who is in control of this traffic?"

Over the past several years, I have had the opportunity to talk with hundreds of Army aviators, several aviation battalion commanders, and two brigade commanders. Despite the articles written in the *Aviation Digest* and similar periodicals, I found that most aviators, S3s, and the good folks in the planning cells on G-staffs still do not have a clear idea of what TAC really is, its capabilities, or how it is a combat multiplier. Generally, "we are just a voice on the radio."

As with most articles written on a technical subject, like aviation, we assume the target readers are associated with the field. Technical terms and jargon are used almost to the point of becoming a language all its own. With a little luck, I will give you a generic description of TAC, and what it can do for aviation commanders on the battlefield.

I will break down the usage of TAC into two scenarios—training (based on field exercise) and real world (based on our most recent conflict in the Middle East).

Training

Let us start with TAC tower teams. Although they are shown on the tables of organization and equipment (TOE) as a three-man team, most units (such as mine) add an additional soldier. The TAC team usually deploys with an AN/TSQ-97, which is a 200-pound, 3 feet x 4 feet box full of

radios (ultra high frequency [UHF], very high frequency [VHF], and secure frequency modulated [FM]). This piece of equipment also can provide wind direction and speed and altimeter readings at a landing site. In training, the TAC team is forward deployed to a proposed landing zone (LZ), FARP, or aircraft assembly areas.

You may say, "So what, I can get pathfinders to do that." Pathfinders are trained for small, unsustained LZ operations. Pathfinders cannot sequence and separate aircraft. They are not trained in weather observation. They are not trained to recognize potential obstructions and hazards to air traffic. They are not trained to help pilots during an in-flight emergency. TAC team members are trained for such emergencies and more. Team members are trained to the same standards, and they are as capable as any air traffic controller in a fixed facility.

Let us discuss some areas of concern for aviators. Every aviator who has had to fly into an uncontrolled FARP under night vision goggles (NVG) can attest to this hair-raising experience. They have discussed the hassle of having to do hovering, 360-degree turns to ensure they are clear all around before they move or take off. Aviators also have discussed the pain of trying to get sequenced into a fuel point, especially if more than one unit is using the FARP. These are just a few of the concerns expressed by the aviators.

A TAC team (equipped with NVG) can get aircraft safely in and out of FARPs without the pilots having to maneuver through uncontrolled traffic. A TAC team at a FARP, LZ, assembly area, or temporary airfield increases the safety factor and speed of operations by at least 100 percent. A TAC team can provide this service within 20 minutes of arrival. It is light, mobile, and can keep pace with the dynamics of the air-land battle. That is a combat multiplier!

One challenge facing aviation commanders is the ability to track the whereabouts of their aircraft at all times. The TAC unit has an AN/TSC-61B Flight Coordination Center. This equipment resembles a small shop van and is mounted on the back of a 2 1/2-ton truck. It is equipped with multiple VHF, UHF, secure FM, and high frequency (HF) radios and can be connected to multiple landlines. The crew consists of seven soldiers who keep track of aircraft via radio and report to the battalion, task force, brigade, or corps flight operations.

You may say, "So what, I can get flight operations specialists to do that." Flight coordination center (FCC) crews are trained air traffic controllers. They have an indepth understanding of tactical airspace usage and how it is integrated with other agencies. They are skilled in coordination procedures regarding multiple user airspace. They are trained in the use of aeronautical charts and maps, which is invaluable when directing rescue and medical evacuation aircraft to the site of a mishap. They can provide current information and recognize potential hazards concerning hot ranges, air defense artillery, etc. With HF radio capability, the FCC can relay vital information for commanders over great distances. The list goes on. The poor, overworked flight operations specialist, working with one FM radio, cannot give aviation commanders the added command and control (C^2) capability of a trained FCC crew. That is a combat multiplier!

All aviation commanders are confronted with the decision whether to launch a mission during inclement weather. The AN/TSQ-71B Ground Control Approach (GCA) radar gives commanders an asset that can get his aircraft safely on the ground during inclement weather. The TAC unit is the only Army organization capable of deploying a GCA. Many aviators will attest to the confidence gained when hearing those words "radar contact" while flying an aircraft under emergency conditions in inclement weather. There is no substitute for having radar recovery capability in any theater. That is a combat multiplier!

I would like to mention these packages are, for the most part, self-sufficient (to include support personnel) and present a small logistical burden on the using unit.

Real World Conditions

Let us discuss some real world uses of Army TAC. The air traffic control system at Pomorolla Airbase, Honduras, was established by Army TAC. The control tower at King Fahd Airport, Saudi Arabia, was manned mostly by Army TAC controllers. The only Allied air traffic controllers in Iraq were Army TAC Controllers, who were forward and in place 48 hours before G-Day? By the end of Desert Shield/Desert Storm, one TAC company controlled more than 255,000 aircraft movements, all without incident. That is a combat multiplier!

TAC units offer much more to aviation commanders than I have discussed. They can establish fully instrumented airfields, nondirectional beacons, and Army airspace command and control expertise. Most commanders want to know what we can do for them on the battlefield. By enhancing speed, safety, and C^2, TAC gives aviation commanders an edge over potential adversaries. That, my friends, is a combat multiplier! ❐

The New Breed

by Captain (CPT)(P) Robert W. Haynie

In late 1991 the U.S. Army Combined Arms Support Command (CASCOM), Fort Lee, VA, with input from the field, developed a course that multifunctionally trains combat service support officers. This course is called the Combined Logistics Officer Advance Course (CLOAC). CLOAC is a planned, 20-week advance course designed to prepare company-grade officers for company-level commands and positions on multifunctional staffs. Unlike any other advance course, CLOAC brings together 15D aviation logistics officers with captains from the Medical Service, Ordnance, Quartermaster, and Transportation corps. The Adjutant General and Finance Corps branches may participate in the future.

Phase I brings all the CLOAC officers together to learn **common** core subjects. During Phase I, at Fort Lee, the officers will develop their communicative skills, briefing and leadership skills, and enhance their knowledge of military history, ethics, and team building. It is here that "branch cross-pollination" begins.

During Phase II, the officers go to their respective branch schools where branch-specific training is conducted. The purpose of the 5-week Phase II is to teach and emphasize the role their respective branch plays in the combined arms team as a combat service support player. New doctrine and tactics are taught to ensure CLOAC students are both technically and tactically proficient. Skills learned in Phase I also are incorporated.

Phase III brings all the officers back to Fort Lee. Each branch participating in CLOAC gives a "branch" presentation (provided by subject matter experts from each branch) on how their respective branch performs its wartime mission. Multifunctional logistics are taught, culminating in a command post exercise (CPX). The CPX tests the officers' abilities to apply the multifunctional logistics, tactics, and doctrinal procedures for logistics planners. Having completed the final "cross-pollination," officers now understand how their branches operate and how to tie their knowledge into the multifunctional positions they will hold.

What does CLOAC do for you now? Looking at the career progression for a 15D aviation captain, we see that as a major, career and command opportunities are very limited. With CLOAC, multifunctional jobs are numerous through the 0-6 level. Commanding a division support command, forward support battalion, and main support battalion is not out of the question. The first step is "qualification," and CLOAC provides that qualification! The impact CLOAC has on the Aviation Branch, specifically 15Ds, is positive!

CLOAC Course Structure

PHASE I

STUDENTS	LOCATION	LENGTH	CLASSES	TOTAL HOURS
All Officers	Fort Lee, VA	7 Weeks	Common Core	280

PHASE II

STUDENTS	LOCATION	LENGTH	CLASSES	TOTAL HOURS
All Officers	Branch School	5 Weeks	Branch Specific	200

PHASE III

STUDENTS	LOCATION	LENGTH	CLASSES	TOTAL HOURS
All Officers	Fort Lee, VA	8 Weeks	Multifunctional	320

CPT(P) Haynie is Chief, Officer Professional Development Division, Department of Aviation Systems Training, U.S. Army Aviation Logistics School, Fort Eustis, VA.

U.S. Army Aviation Logistics School

Readers may address matters about aviation logistics to: Assistant Commandant, U.S. Army Aviation Logistics School, ATTN: ATSQ-LAC, Fort Eustis, VA 23604-5415

U.S. Army's Air Traffic Control Facility of the Year

by Major (MAJ)(P) Donald Stuck
and
Mr. Paul Taylor

The Army Flight Operations Detachment (AFOD) located in Heidelberg, Germany, is a unique support organization. The AFOD has provided centralized air traffic services (ATS) to all U.S. Army aircraft operating in Europe. Today, AFOD supports over 2,000 aviators, flying 1,200 aircraft. These aviators are based at 52 permanent U.S. Army airfields, heliports, and tactical airfields throughout the Federal Republic of Germany. The AFOD was selected this January as the U.S. Army, Europe ATC facility for 1991. Recently, it was selected as the Army's ATC facility of the year by the U.S. Army Air Traffic Control Activity, Fort Rucker, AL.

All flight plans and related messages are routed through AFOD for processing and distribution the appropriate military or civil ATC authority. The AFOD traffic handlers review all flight plans to ensure compliance with flight regulations and safety procedures. Errors or omissions are discussed with the air crew and, if necessary, corrections are made. The AFOD tracks the aircraft's progress from takeoff until the flight plan is closed out at destination. The AFOD provides centralized control over emergency actions, such as U.S. military/civil and German civilian medical evacuations and search and rescue operations.

Besides providing routine ATS support to 48,426 flights during 1991, AFOD personnel faced three monumental tasks that had to be completed while remaining fully operational. First, they closed and transferred the property of their three border flight-following facilities. Next, they planned and implemented an internal automation program that resulted in a more reliable and efficient service. Finally, they planned and orchestrated the renovation of new facilities and the subsequent move of personnel and equipment. These projects were completed without interruption of ATS.

The personnel of AFOD also have dedicated themselves to improving their local community. They supported and participated in three very worthwhile organizations within the Heidelberg community—the Heidelberg Youth Services, the Army Community Services, and the Combined Federal Campaign. The AFOD personnel were credited with 737 off duty, volunteer hours during the last 6 months of 1991. Contributions toward the Youth Services included refereeing, coaching, chaperoning teen dances, providing bus and van drivers for special activities, telephone coordination, and much more.

The AFOD also is a valuable contributor to the Army Community Service. The AFOD personnel are members and supporters of the "Funshine Olympics Coordination Committee." This committee is a volunteer organization dedicated to bringing joy to the community's mentally handicapped youth by hosting an annual olympic-style sporting extravaganza. Besides their other duties, AFOD personnel volunteered to install the sound systems at three different locations and agreed to be the official photographer/reporter for this year's event.

The AFOD was a 1991 winner of the Combined Federal Campaign's Merit Award and the prestigious Unit Honor Award. The AFOD and one other unit in the entire Heidelberg community received this Unit Honor Award.

The AFOD provided continuous, error-free ATS to U.S. Army aviators while relocating to new facilities, reorganizing unit operations, supporting Operation Desert Storm/Desert Shield, and simultaneously downsizing its overall force structure by 25 percent. The achievements of this organization reflect the necessary values, dedication, and professionalism associated with the prestigious Earl F. Ward Memorial Award.

MAJ(P) Donald Stuck was Commander, U.S. Army Flight Operations Detachment, Heidelberg, Germany, when this article was written. Mr. Paul Taylor is an Air Traffic Control Specialist assigned to the U.S. Army Air Traffic Control Activity, Fort Rucker, AL.

U.S. Army Air Traffic Control

Readers may address matters concerning air traffic control to: Commander, USAAVNC, ATTN: ATZQ-ATC-MO, Fort Rucker, AL 36362-5265.

Dual Tracking

Recently, there has been much talk and many briefings concerning dual tracking for enlisted soldiers. There is always a conference or work group studying "Stripes on the Flight Line." These issues are extremely important to the Aviation community. Both these issues are generated primarily by the following three concerns:

- The need for more experienced aircraft repairers.
- Insufficient staff experience for aviation command sergeants major (CSMs).
- Aviation staff military occupational specialties (MOSs) provide few opportunities for soldiers to perform first sergeant (1SG) duties or be selected as CSM.

What is dual tracking? Aviation, and the rest of the Army, is currently operating with a single track, career progression system. Single track means there is only one MOS career path for any one enlisted soldier. In Aviation, there is a leadership track for career management field (CMF) 67 soldiers and a staff track for CMF 93 soldiers.

CMF 67 is on a leadership track because 80 percent of the master sergeant (MSG)/1SG authorized positions are 1SG positions. The remaining 20 percent of the MSG/1SG 67Z soldiers are working directly with aircraft maintenance. Yes, the 1SG does affect aircraft maintenance, but he is responsible for so many other areas in an aviation company that it would be impossible to classify him as a repairer. Almost all the CMF 67 sergeants major (SGMs) duties are within the training or senior staff arena. Only those at the U.S. Army Aviation and Troop Command have a direct influence on aircraft maintenance. All but a few of the CSM positions are filled from CMF 67 background soldiers. The few aviation CSM billets not filled with a background CMF 67 CSM are in the U.S. Army Training and Doctrine Command or an air traffic control battalion. Therefore, about 85 percent of CMF 67 MSG/1SGs and SGMs do not work directly with aircraft maintenance.

CMF 67 soldiers are locked in a leadership track. If the soldier does not seek leadership positions from the SFC level up, the soldier will not be competitive for the top two senior noncommissioned officer (NCO) positions. Under the current single tracking system, the NCO who does not seek and attain leadership positions will fall by the wayside.

CMF 93 soldiers are primarily on a staff track. Most of the authorized positions for MSGs and SGMs are staff positions. There are few leadership positions available for the CMF 93 soldier, except the ATC Battalion leadership positions. Some CMF 93 soldiers serve in 67Z 1SG duty positions, and some CMF 67 soldiers serve in staff positions. However, in the main, CMF 67 is on a leadership track, and CMF 93 is on a staff track.

Now let us discuss dual tracking. A dual track system in aviation could be established with the two tracks being leadership and technical. Two key elements to dual tracking are as follows:

- Soldiers in one track do not compete for promotion with soldiers in another track.
- A soldier is locked into one track.

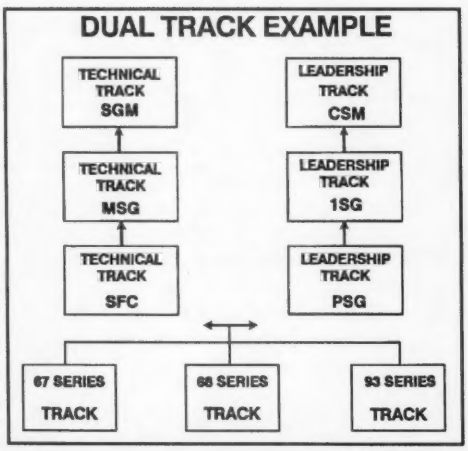
Tracking would begin at the sergeant first class (SFC) level. Therefore, all MOSs would remain the same from private through staff sergeant (SSG). The Department of the Army Centralized Promotion board could become the organization that selects the track for soldiers from SFC and up. The individual soldier could be included in this process, but the decision on which track a soldier enters must be based on the needs of the Army.

The dual track example will give you an overview of a dual tracking system. All the current CMF 67 SSGs will compete for both the technical and the leadership positions. A new MOS series (15) in this example would have to be established to ensure leadership track soldiers only compete among themselves for promotion. The aviation battalion and brigade operations positions should be coded as a leadership track MOS to allow those soldiers an opportunity to serve in staff positions and leadership positions.

This dual tracking system could provide the following assets:

- Keep experienced NCOs working in aircraft maintenance.
- Afford future CSMs an opportunity for both staff and leadership duty positions.
- Afford opportunities for 1SG duty to all Aviation soldiers.

The dual tracking system and the consolidation of MOSs benefit our many low density Aviation MOSs, i.e., 93D, 67S, 68B, 68D, 68F, etc. The dual tracking system could systemically identify potential and allow better growth opportunities within the Aviation Branch, particularly those quality soldiers in low density MOSs; it is an initiative whose time has arrived.



Aviation Proponency Office

Send matters concerning aviation personnel notes to: Chief, Aviation Proponency Office, ATTN: ATZQ-AP, Fort Rucker, AL 36362-5000; or call DSN 558-5706/2359 or commercial 205-5706-2359.

The Airspace Reclassification Process

by Mr. Terry Van Steenbergen

What do you know about the reclassification of airspace in the United States? The reclassification process is a phased changeover to a new configuration of airspace. The process started on 15 October 1992 and will be completed by the spring of 1994. The following actions have occurred or will occur in the months ahead:

- The tops of control zones, in most cases, were lowered to 2500 feet above ground level on 15 October 1992.
- Control Zones will no longer be charted on world aeronautical charts (WACs) published on or after 15 October 1992. Control zones within terminal control areas will not be depicted on all charts. Control zones will, however, continue to exist legally until 16 September 1993.
- Other charting changes were introduced with the regularly scheduled October 1992 update of visual flight rule (VFR) sectional, world, and terminal aeronautical charts and will continue until 16 September 1993. These changes include line color changes, new air defense identification zone and special use airspace symbology, and new symbology for Class E airspace floors.
- The actual reclassification of airspace will not take place until 16 September 1993. On that date, the new regulations affecting the reclassified airspace will became law.
- On 16 September 1993, the new names for airspace will be listed on charts, followed by the old names. Early in 1994, the old names will be dropped from the charts entirely.

You should study the changes. The system may have some holes in it that may need to be corrected. We will resolve any questions you may have about an airspace or charting issue.

Let us take a brief look at what will become Class D airspace and some changes that will affect you. On 16 September 1993, control zones and airport traffic areas will no longer exist. Class D airspace will be a modified combination of both. Class D airspace usually will be airspace from the surface to 2500 feet above the surface. The lateral boundaries will vary, with each location's airspace tailored to provide for the air traffic type and volume handled by the airfield. Each Class D airspace will contain a primary airport. It also may contain satellite airports or be designed to exclude some nearby airports. All aircraft operating within Class D airspace will be required to have radio communications with the primary airport control tower.

How will these changes affect you as an air traffic controller or air traffic and airspace officer? You should review your Letters of Agreement to see if modifications to your control zone affect any of the agreements. If you need to communicate with aircraft operating from satellite airports, your work load will increase beginning 16 September 1993. You also should review all your airspace to see if any changes require a modification of range or other installation procedures.

As a pilot, you will not notice any rules changes until 16 September 1993. You will, however, notice the charting changes on VFR charts as they are updated. You should study your VFR charts carefully. Once the new rules go into effect, the surface areas and altitudes for Class D airspace will no longer be standard. Also, before you operate at a satellite airport, you will be required to contact the primary airport, to include a determination of whether the Class D airspace is instrument flight rules.

We have touched very lightly on this subject area. For more information, we recommend that you review the Airman's Information Manual (AIM), 15 October 1992; Federal Registers dated 18 October 1989 and 27 August 1992 (obtainable from your local Judge Advocate General); Federal Aviation Administration (FAA) Part 71; FAA Handbook 7400.7 Supplement; and the four-page insert to the sectional charts. The four-page insert, entitled Airspace Reclassification and Charting Changes for VFR Products, is being issued with new editions of sectional charts. The insert and AIM contain the planned publication dates for all VFR sectional aeronautical charts. Check those dates to determine when the applicable charts will be revised for your operating areas.

As more information becomes available, the U.S. Army Aeronautical Services Agency will relay it to the field, using the Flight Information Bulletin or articles similar to this one.

Mr. Steenbergen is an Air Traffic Control Specialist assigned to the Airspace Support Division, U.S. Army Aeronautical Services Agency, Alexandria, VA.

U.S. Army Aeronautical Services Agency

USAASA invites your questions and comments and may be contacted at DSN 284-7773/7984 or write to: Commander, U.S. Army Aeronautical Services Agency, ATTN: MOAS-AI, Cameron Station, Alexandria, VA 22304-5050

Mission, Process, and Product

by Lieutenant Colonel (LTC) Chris Sieving

Over the years, we have heard the joke about the two biggest lies, "I am from DES and I am here to help," and the commander saying, "we are glad to have you." This joke has brought many laughs, but the thrust of the Directorate of Evaluation and Standardization (DES) is to make these humorous quotes become reality.

During the December 1991 Aviation Brigade Commander's Conference, the purpose of the DES/Aviation Resource Management Survey (ARMS) visits were discussed in detail. Field commanders stated that the DES/ARMS visit required several months of preparation, with corps and division teams preceding the actual visit. With the commanders' heavy workload, this process is distracting, not helpful. Commanders wanted more assistance in solving problems, not in just identifying them. Several commanders felt the process was a threat or a "bet your eagles" exercise, because the outbrief and final report were done through the chain of command. As a result, Major General (MG) Dave Robinson, Commanding General (CG), U.S. Army Aviation Center (USAAVNC), Fort Rucker, AL, directed a thorough review of the DES mission, process, and product.

This directive required an indepth review by many personnel at USAAVNC and included input from field brigade commanders.

After several briefings to a council of colonels and to the CG, a new mission, process, and product were formulated.

This new process is not free. DES still has the mission (as the proponent agent for the Army Aviation standardization program) to ensure implementation and compliance with regulatory requirements. We will still call a spade and a spade, but will do so in a "user friendly" manner. Let us discuss this new process and how it affects you.

First, we revised our mission statement. **New mission:** DES's field mission is to assist the commander in the implementation of his standardization program, the commander's areas of interest, areas requiring additional attention, and the fielding of new programs and equipment.

What is important is that DES will assist you, after we access your programs. We are here to help your unit succeed.

In this new process, we have added some new definitions to complement our new mission.

Assist. DES will assist the new commander to identify his unit strength and those areas requiring additional attention.

Coach. Because of the vast number of units we visit worldwide, we see many good programs. During our coaching, we will provide information about the new programs we found to be successful in other units. We will ensure that the unit is following its standing operating procedure (SOP).

Teach. Before our visit, we will ask the commander to identify areas requiring additional attention. We will teach and assist commanders, staff, and soldiers in these areas.

Feedback. We want to take the unit's good ideas, SOPs, program, etc., back to USAAVNC. This feedback will make our courses and overall aviation product better.

The process begins at the pre-command course where commanders are briefed on the new concept. DES, with the major commands, will schedule DES/ARMS visits within 120 days after a brigade's change of command. We will give the commanders a list of functional areas in which we provide assistance. The commander should choose the areas he wants accessed and identify any additional areas, not

on the list, with which he wants assistance. The functional areas are as follows:

- Implementation of aircrew training programs and new aircrew training manuals.
- Aviator and nonaviator flight records.
- Night vision goggles.
- Safety management.
- Risk management.
- Air traffic control.
- Aircraft survivability equipment.
- Environmental training programs.
- Instructor pilot, instrument flight examiner, and maintenance test pilot equivalency.
- Local transition training.
- Aviation medicine.
- Aviation maintenance standardization.

Another key part of our assistance visit is the CG's annual areas of interest letter. This letter focuses on warfighting areas. DES is directed to look at the following areas in detail for fiscal year (FY) 93:

- Battle rosters and aircrew training programs with emphasis on crew coordination.
- Aircraft armament systems, special mission equipment, rules of engagement.
- Aircraft survivability equipment operation and employment procedures.
- Aerial observer and nonrated crewmember training programs.
- Tactical mission training programs and capabilities of medical evacuation units and crews to include integration within the aviation brigade or higher headquarters.
- Safety management programs.
- Risk management programs.

Once the commander and director (DES) have identified the areas to we looked at, together they can develop a warfighting focus for the assistance visit. First, they look at the unit's mission essential task list (METL). Jointly, the commander and DES develop a training schedule for the first 2 days that meets everyone's objectives. This training schedule will help the commanders and DES determine what the units are doing each day and what resources are required. This training schedule also will help eliminate any uncertainty for the first 2 days of the assistance visit. During the warfighting focus, DES wants to participate and fly in METL missions. The commander will select the type of mission, the number of aircraft to participate, the time of execution, and the crews. DES will participate in the mission briefing, pre-mission planning, and rehearsal. DES also will participate as a crewmember on the mission and be part of the after action review (AAR). These METL missions should be developed for all battalions and separate companies. The training schedule should ensure that everyone is using the same sheet of music.

At the end of the second day, an AAR will be given to the brigade commander. This process is a change to the old way of doing business; that is, no formal outbrief will be given to the chain of command. The AAR will cover an assessment of the areas of interest requested by the commander and the CG and the missions flown. Based on the assessment and the AAR, DES will go into the assistance phase, beginning the third day. For example, the aviators may need a class on how to operate their aviator survivability equipment or the commander and staff may want to know more about crew coordination. DES will provide this type of assistance as formal classes or individually. The commander and director will decide who, what, when, and where this assistance will take place for the rest of the week.

Once the assistance process is over, DES will, as always, produce a final report. However, this report will be signed by MG Robinson and forwarded directly to the brigade commander. It will not go through the chain of command. We are trying to take the threat out of our visit. We want this report to identify the strengths in units and help the commander focus on those programs that need his attention. This report will give the commander a training blueprint for the remainder of his command tenure.

In FY93, this test program will be implemented only in the U.S. Army Forces Command. Our goal for FY94 is to schedule our visits every 24 months for the U.S. Army Reserve (USAR) and National Guard (NG). The USAR will be scheduled by the U.S. Army Reserve Command (ARCOM) or brigade, and the NG will be scheduled by state. This process will give the state aviation officer, brigade commander, or ARCOM commander a report that quantifies the status of aviation under his command or direction.

We believe this new concept will provide the following advantages from the old process:

- Removes perception of threat.
- Provides DES/ARMS assessment early in command tenure.
- Allows commanders to provide input into the process.
- Provides a training schedule that identifies all resource requirements before the visit.
- Provides a final report that quantifies the status of aviation within the command.

DES personnel look forward to helpings units achieve their greatest potential. We are "here to help" and before long, you will be saying, "I am glad you are here."

LTC Sieving is Chief, Operations Division, Directorate of Evaluation and Standardization, U.S. Army Aviation Center, Fort Rucker, AL.

Directorate of Evaluation and Standardization

U.S. ARMY AVIATION STANDARDIZATION

DES inquires may be sent to: Commander, USAAVNC, ATTN: ATZQ-ES, Fort Rucker, AL 36362-5208; or call DSN 558-3504 or commercial 205-255-3504. After duty hours call DSN 558-6487 or commercial 205-255-6487 and leave a message.

Fratricide

by Sergeant First Class (SFC) Kenneth Muise

Almost everyone is familiar with the old battlefield cliche "a bullet with my name on it." It means that somewhere there is a projectile of some sort intended specifically for you. Realistically speaking, a projectile in flight could be said to be addressed "to whom it may concern."

A bullet, an artillery round, an arrow, or even a thrown rock have certain characteristics in common. These objects cannot be recalled after being launched. They have no conscience, and they cannot differentiate between friend or foe using today's technology.

The official definition for fratricide is "the employment of friendly weapons and munitions with the intent to kill the enemy or destroy his equipment or facilities, which results in unforeseen and unintentional death or injury to friendly personnel." In plain talk, it is the tragedy of injury and deaths in combat due to "friendly fire," and it has plagued armies for centuries.

In cooperation with many other Army agencies, the U.S. Navy, and the U.S. Air Force, the U.S. Army Test and Experimentation Command (TEXCOM) Air Defense Artillery Test Directorate (ADATD), Fort Bliss, TX, has been involved in helping to find a solution to minimize such occurrences in the future.

Specific information on the technology involved is not available because of the obvious security restraints. However, the U.S. Army Laboratory Command (LABCOM), Adelphi, MD, and seven contractors worked with TEXCOM to test prototype systems using technology that ranged from lasers, to infrared, to radio, to thermal imaging.

The candidate combat identification systems tested were designed to query a possible target and receive verification of friend or foe. This verification must be readily available. On the modern battlefield, there is no time for lengthy analysis. The goal is confirmation in 1 second or less.

Test data were collected on how effective the systems were under extreme climatic conditions including low-light levels, dust, smoke, and fog. According to the ADATD Test Officer, the tests have resulted in data being collected and passed on to LABCOM for further analysis. LABCOM personnel will select the most effective concept for further development.

It is too early to estimate when a viable and effective identification system will be fielded, but joint research and development continue to strive for the best possible system. Meanwhile, the Center for Army Lessons Learned (CALL), U.S. Army Combined Arms Center, Fort Leavenworth, KS, is providing useful tactics, techniques, and procedures for use as training tools to maneuver leaders at all levels, which can reduce the fratricide potential.

CALL Newsletter Number 92-4, April 1992, "Fratricide: Reducing Self-Inflicted Losses," emphasizes that "The key to solving fratricide problems is detailed planning and rehearsals to minimize predictable risks." This newsletter was designed to complement CALL Handbook Number 92-3, April 1992, "Fratricide Risk Assessment for Company Leadership."

"Lack of positive target identification and the inability to maintain situational awareness in combat environments are the major contributors to fratricide. If we know where we are and where our friends are in relation to us, we can reduce the probability of fratricide. If, in addition, we can distinguish between friend, neutral, and enemy, we can reduce that probability even more," stated an Army Combat Identification Interim Report.

As technology permits modern warfare to be waged at increasingly longer ranges in high-intensity scenarios, the possibility of casualties inflicted by friendly fire also increases. However, that same technology is being exploited to protect friendly troops from tragic errors. Nevertheless, any technology eventually fielded will complement, not replace, solid training and leadership.

SFC Muise is assigned to TEXCOM Air Defense Artillery Test Directorate, Fort Bliss, TX.

Test and Experimentation Command

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USAAVNC Hosts 2d Annual Air Assault Challenge

Story by Ms. Wanda Reynolds
Photos by Sergeant Vicki Hudson
Public Affairs Office
Fort Rucker, AL

They came to Fort Rucker to meet a challenge...the Air Assault Challenge.

The U.S. Army Aviation Center, Fort Rucker, AL, was the site of the 1992 Air Assault Challenge.

According to Captain (CPT) Anthony Sabb, commandant of the Air Assault School, this year's air assault challenge was a great success over last year's competition. Teams competed from units worldwide. Besides Fort Rucker participation, teams came from Hawaii; Fort Campbell, KY; Eglin Air Force Base, FL; Fort Hood, TX; Fort Drum, NY; Fort Benning, GA; Hunter Army Airfield, GA; Fort Bragg, NC; Fort A.P. Hill, VA; Fort Clayton, Panama; Barling, AR; and Braggs, OK.

The 3-day competition was open to 60 two-soldier teams who were already air assault qualified. Soldiers of any rank, gender, age, or service were eligible to compete.

On the first day of the Air Assault Challenge, soldiers were welcomed and given a basic skills refresher course by the Air Assault cadre.

Fifty teams began and 44 teams finished the eight scored events: physical fitness, helicopter landing point, slingload inspection, Swiss seat tower, academic testing, hand-and-arm signalling, obstacle course, and the 12-mile foot march.

The first scored event was an extended Army physical fitness test.

The second event measured the team's ability to mark a helicopter landing point quickly and accurately.

The slingload inspection event had four pieces of equipment rigged with four "gigs" or mistakes.

The Swiss seat tower run event required teams to tie correctly a Swiss seat, run through 40 yards of deep gravel, and climb stairs to the top of a 5-story rappel tower.

Soldiers were tested academically, participating in a 15-minute, 100-question exam.

In the hand-and-arm signal event, teams were required to perform 15 different helicopter hand-and-arm signals.

Teams were pitted against each other and negotiated nine different obstacles in the obstacle course event.

The last event of the Air Assault Challenge was the grueling 12-mile foot march over different terrain.

CPT Sabb says that next year's air assault challenge promises to be even more competitive and will attract even more diverse unit participation.

Each contestant received a commemorative challenge T-shirt. First, second, and third place winners received 9mm Ruger pistols, Gerber survival knives, and pocket leatherman survival tools, respectively.

Just one more...one more time! Physical fitness was the first event.

Winners!

Overall Competition

First Place: Sergeant (SGT) Shawn P. Stafford and SGT Randall E. Lates, Company C, 509th Airborne Infantry (Pathfinder), lst Battalion, l0th Aviation Regiment, lst Aviation Brigade, Fort Rucker; 1,326 points.

Second Place: CPT Vincent Carlisle and SPC Paul Garrett, also from the 509th; 1,257 points.

Third place: SGT Alonzo L. Rollins and SGT Richard L. Hahn, B Company, l-22d Infantry, Fort Drum, NY; 1,239 points.

CPT Donna Korycinski and SPC Stephanie Fick, C Company, lst Battalion, llth Aviation Regiment, Aviation Training Brigade, Fort Rucker; 24th in overall competition.

Scored Events

Physical Fitness
First Place: CPT John R. Fortune and CPT James E. Hoover, 29th Infantry Division (Light), National Guard, Fort A.P. Hill; 615 points.

Helicopter Landing
First Place: CPT Carlisle and SPC Garrett; 2 hours, 3 minutes.

Slingload Inspection
First Place: SGT Stafford and SGT Lates; l6 out of l6 mistakes found.

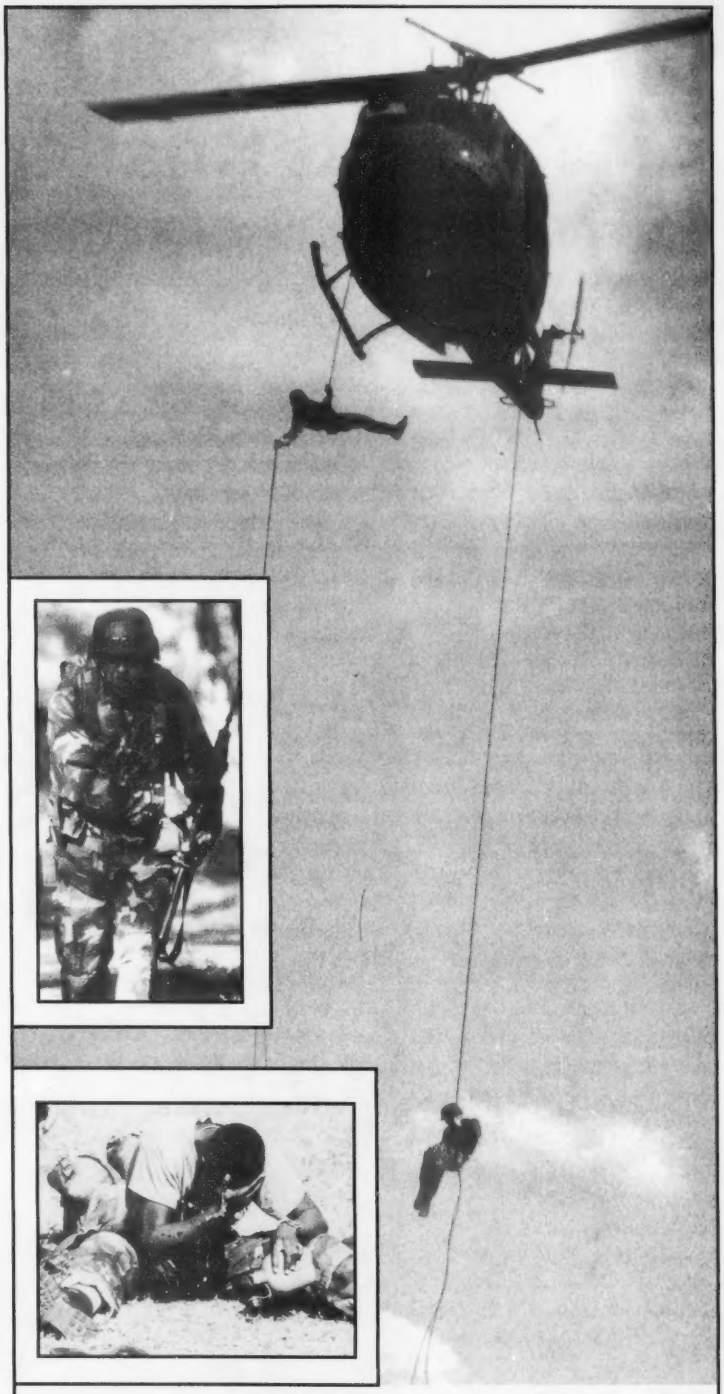
Swiss Seat Tower
First Place: SGT Rollins and SGT Hahn; 2 hours, 9 minutes.

Academic Exam
First Place: SGT Stafford and SGT Lates.

Hand-and-Arm Signals
100-Percent Correct: SGT Stafford and SGT Lates—CPT Carlisle and SPC Garrett; 50 points.

Obstacle Course
First Place: SGT Rollins and SGT Hahn; 300 points.

12-Mile Foot March
First Place: SGT Rollins and SGT Hahn; 2 hours, 4 minutes.



TOP: SGT Shawn P. Stafford and teammate SGT Randall E. Lates rappel from a UH-l Huey.
CENTER: A soldier perseveres the l2-mile foot march.
BOTTOM: A soldier relaxes. He just finished the grueling foot march.

Changes of Custodianship

by Colonel Burt S. Tackaberry
and
Captain Robert Douthit

Unit changes of command are a significant and regular event in the life of a unit. These ceremonies are steeped in tradition. Equally significant in the life of a unit is its change of command sergeant major (CSM). Yet, there is no ceremony to note the passing of such important authority. The noncommissioned officers (NCOs) are the backbone of the U.S. Army, and the CSM is the highest ranking NCO in the unit. Why then, is there no ceremony to welcome and farewell CSMs? To show respect and officially recognize the changing of responsibility and authority within the unit, the 24th Infantry Division (Mechanized), Fort Stewart, GA, conducts a change of custodianship when CSM changes occur.

The CSM is the "Custodian" of the unit. His appointment to CSM is signed by the Chief of Staff of the Army. He ***advises the commander on all enlisted affairs and provides counsel and guidance to NCOs and other enlisted personnel.*** Additionally, he ***upholds military customs and traditions within the unit.*** As a professional NCO, he ensures that the NCO chain is setting the standard in all areas. His tremendous authority is recognized by officer and enlisted personnel. The respect he receives is immeasurable.

Many of our military traditions are based on British military tradition. According to Major Andrew Drake, British Liaison Officer, U.S. Army Military Academy, West Point, NY, enlisted members ***tow the sergeant major about the barracks.*** The incoming regimental sergeant major literally is towed on a wagon or caisson through the barracks of his new unit. The outgoing regimental sergeant major is ***dined out*** by the NCOs of the unit the night before he relinquishes his position. Still, there is no official ceremony in the British Army that brings the two sergeants major together to officially pass the colors. For that matter, the British do not have change of command ceremonies for commanders.

The U.S. Army conducts change of command ceremonies with great pomp and circumstance. Unit changes of command recognize the achievements of the unit under the outgoing commander, provide him the opportunity to address the unit, introduce the unit to the new commander, observe the passing of the unit's colors to the incoming commander, and signify the official passing of authority. The entire unit marches and, significantly, it is the unit CSM that passes the colors between the commanders. He is the custodian entrusted with the unit's colors.

Based on the important position held by the CSM, a ceremony to honor the change of custodianship would signify the importance of the transition—the passing of great authority and responsibility. The ceremonies in the 24th Infantry Division (Mechanized) are in keeping with the same traditions as unit change of command ceremonies. All enlisted members of the unit participate in the ceremonies. The next highest ranking NCO in the unit should be the Commander of Troops and assume the honors at the change of custodianship. The only major difference is that there are no officers participating in the ceremony. In honor of our outstanding NCO corps, all changes of CSM in the 24th Infantry Division (Mechanized) are conducted as changes of custodianship. This might be a tradition worth starting.

Colonel Tackaberry was Commander, Aviation Brigade, 24th Infantry Division (Mechanized), Fort Stewart, Ga, when this article was written. Captain Robert Douhit is Commander, A Company, 1st Battalion, 24th Aviation Regiment, Aviation Brigade, 24th Infantry Division (Mechanized), Fort Stewart, GA.

Department of the Army
U.S. Army Aviation Digest Professional Bulletin
U.S. Army Aviation Center
ATTN: ATZQ-PAO-AD
Fort Rucker, AL 36362-5042

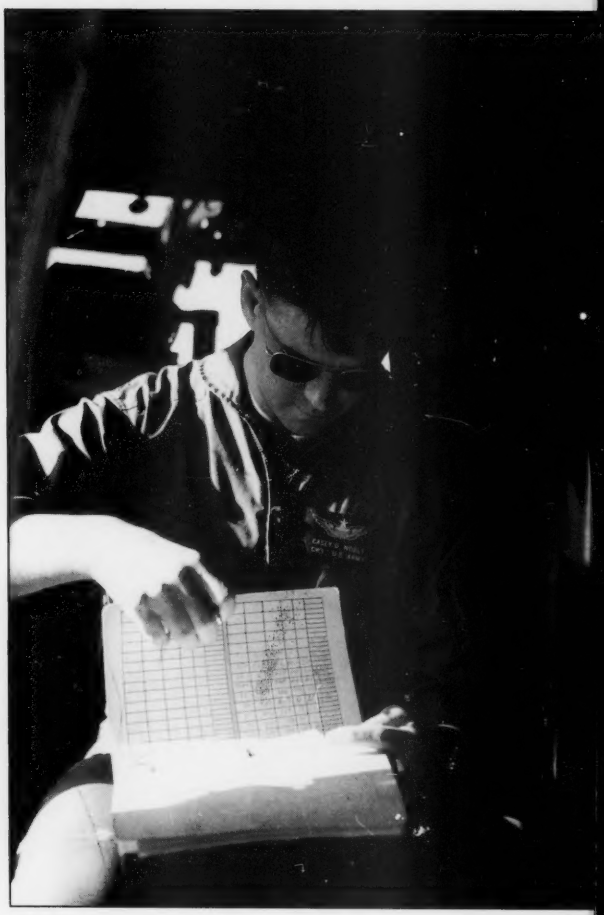
Second Class Mail
Postage and Fees Paid
Department of the Army
ISSN 0004-2471

USPS 415-350
Official Business

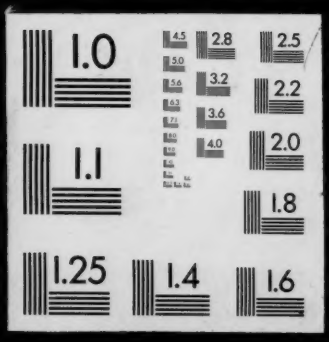
U.S. Army Aviators Support Dismounted Battle Lab (continued from page 35).

SGT Timothy Connell prepares the inside of a UH-60 Black Hawk for General Frederick M. Franks Jr., Commander, U.S. Army Training and Doctrine Command. SGT Connell is a crewchief with the 6-159th Aviation Assault Battalion, Company A.

CW3 Doffis L. Daugherty (left) and CW3 Casey D. Noble file flight plan for the night's mission. CW3 Daugherty and CW3 Noble are flight instructors with the 6-159th Aviation Assault Battalion, Company A.



CW3 Casey D. Noble, a fight instructor with the 6-159 Aviation Assault Battalion, Company A, checks the log boo of a UH-60 Black Hawk during preflight procedures before Dismounted Battle Lab flight.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